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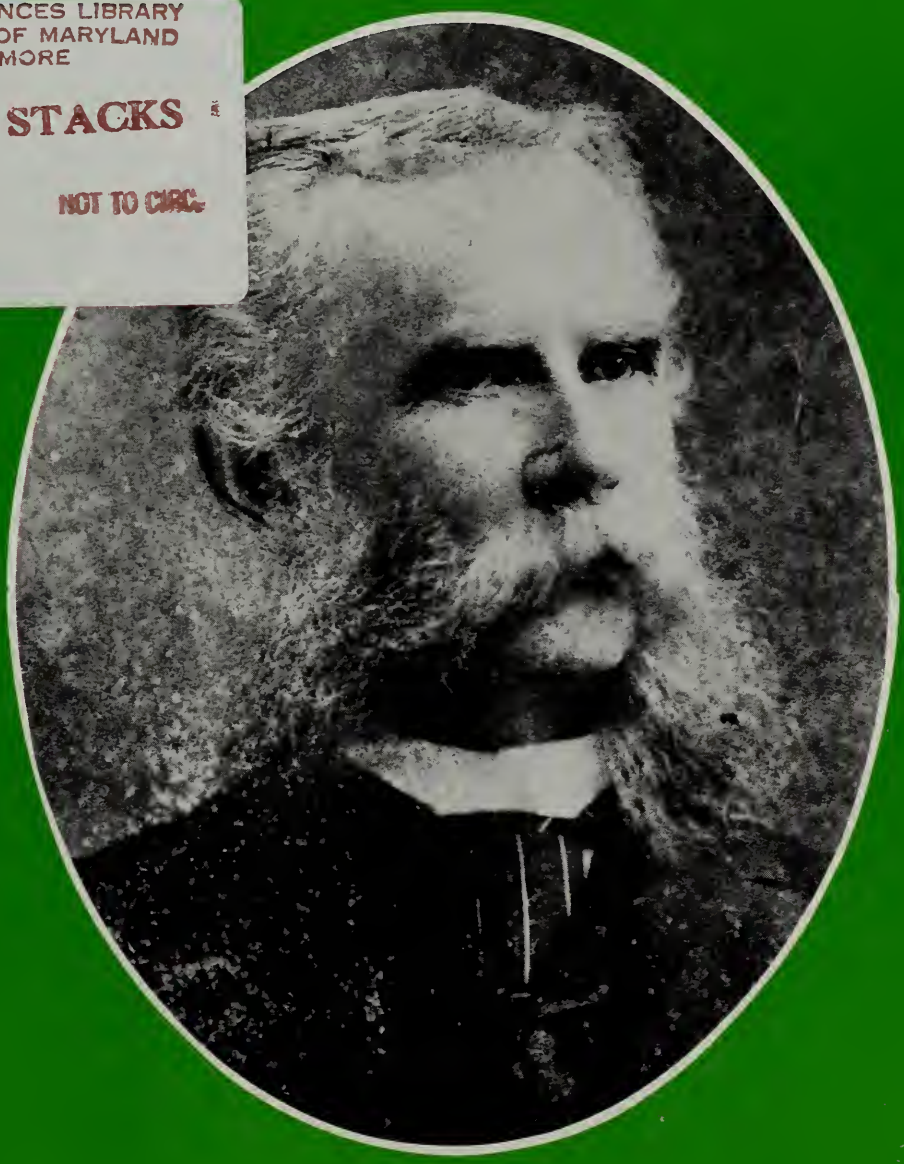

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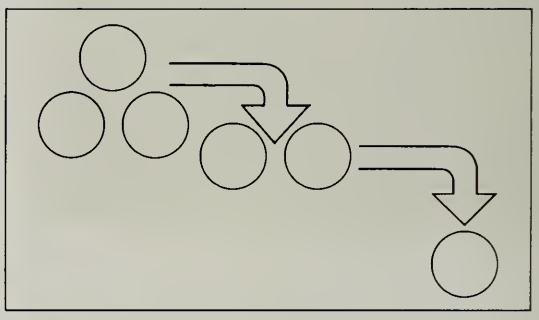

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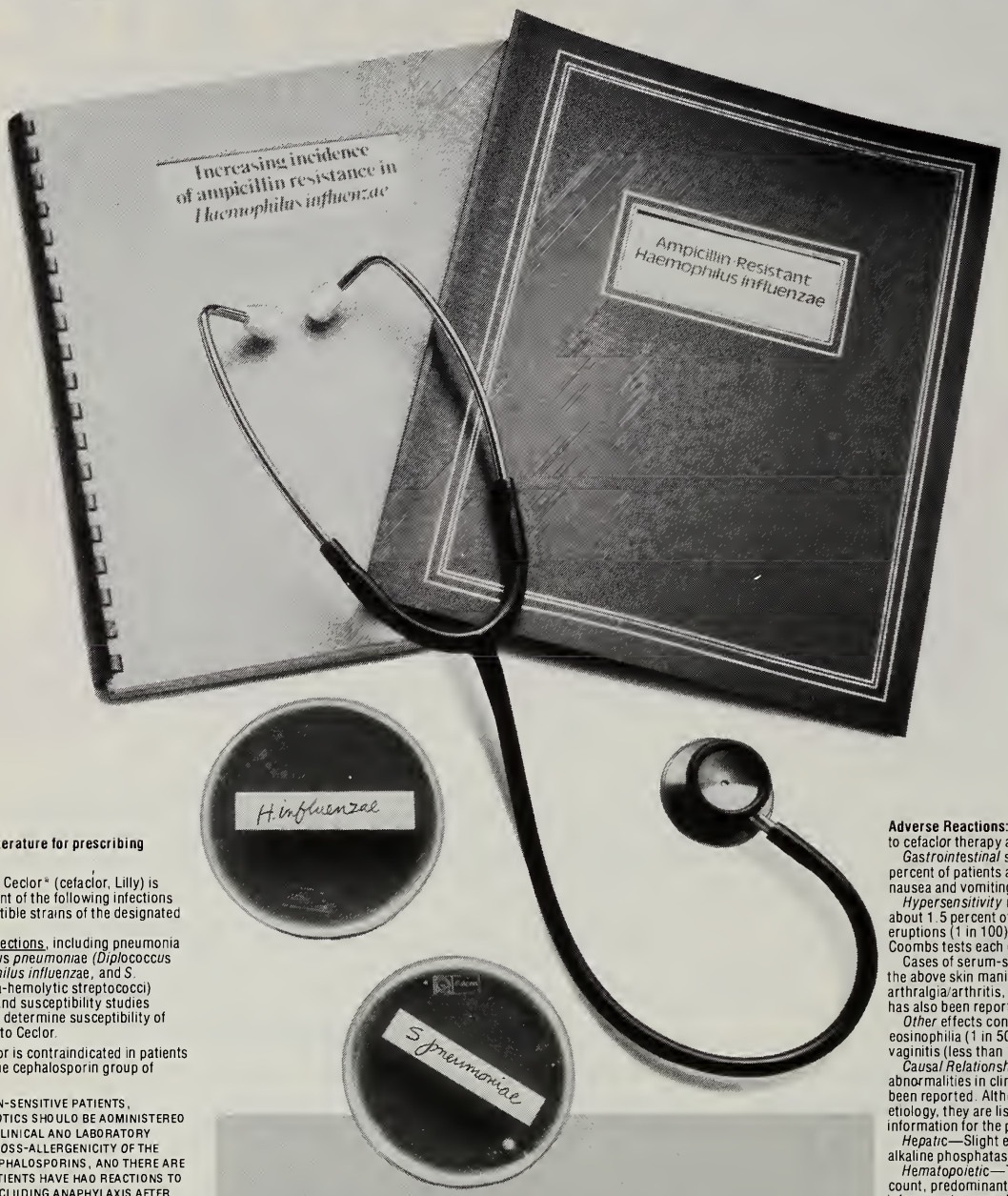
An added complication... in the treatment of bacterial bronchitis*



Brief Summary.
Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS TO BOTH DRUG CLASSES (INCLUDING ANAPHYLAXIS AFTER PARENTERAL USE).

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Precautions: If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Usage in Pregnancy—Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

Usage in Infancy—Safety of this product for use in infants less than one month of age has not been established.

Adverse Reactions: Adverse effects considered related to cefaclor therapy are uncommon and are listed below:

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting (1 in 90).

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occur in less than 1 in 200 patients.

Cases of serum-sickness-like reactions, including the above skin manifestations, fever, and arthralgia/arthritis, have been reported. Anaphylaxis has also been reported.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200). [103080R]

Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

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Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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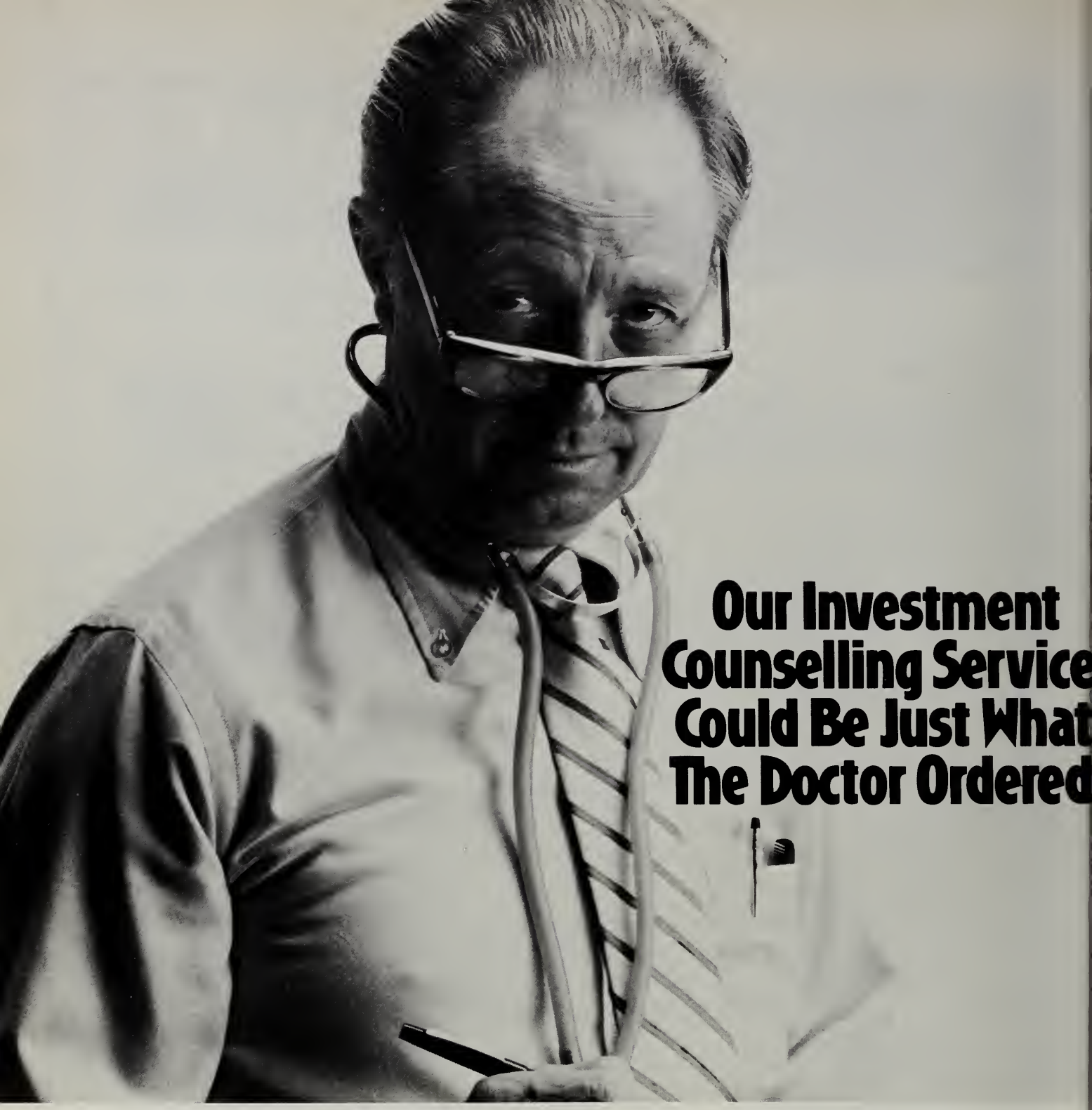

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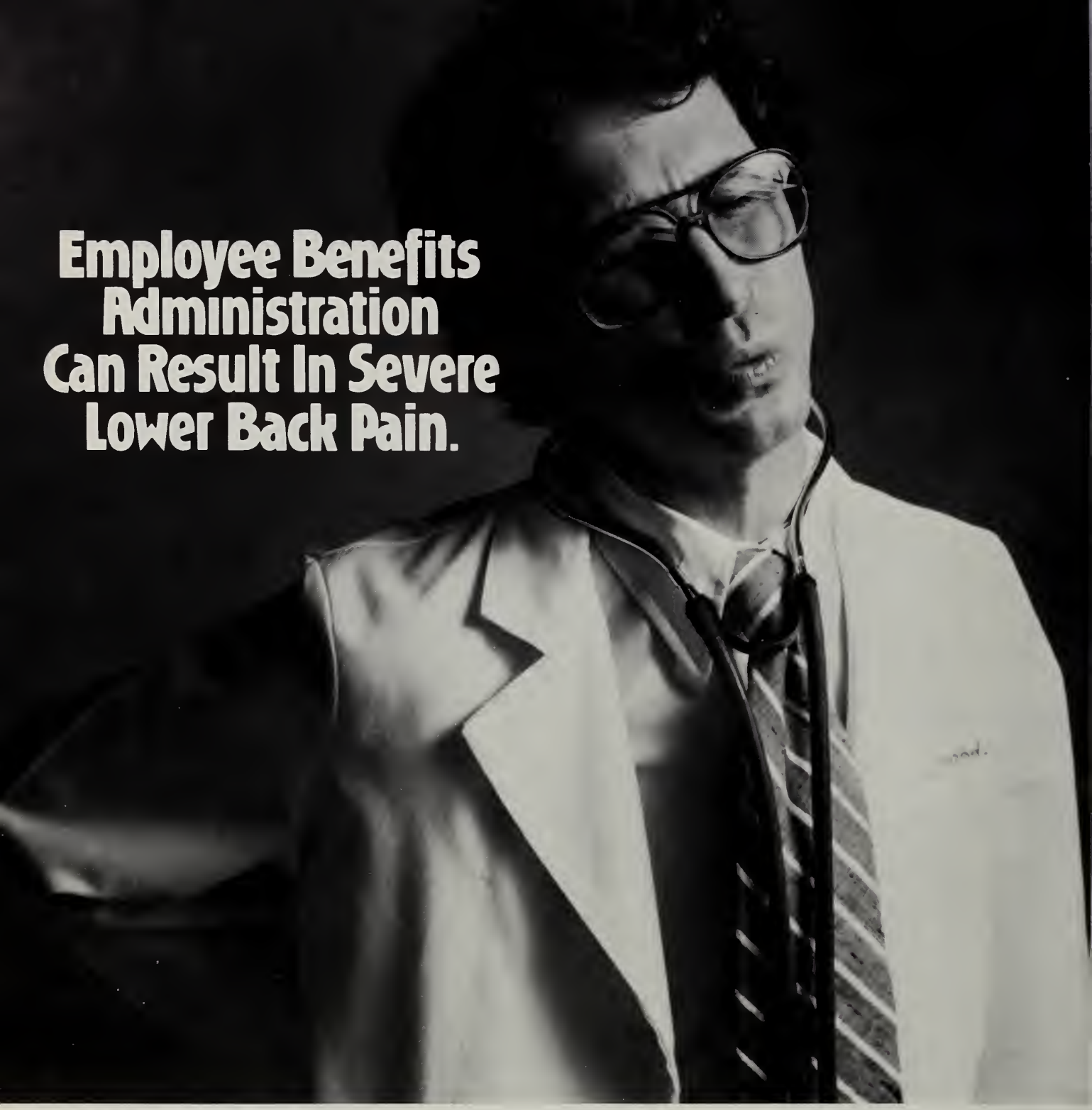

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President's Page

EXPENSIVE AMBULANCES AT THE BOTTOM OF THE CLIFF

Most of us applaud the Reagan Administration's efforts to balance the federal budget. It's been obvious to us all that run-away federal spending has had a disastrous effect in its aid and abetment of inflation. Now it comes as no surprise to any of us that when you cut down on federal spending (which is supposed to help inflation a couple of years down the road), you cut down on federal programs *now*. Perhaps the federal programs that affect more physicians in this state than any others are Medicare and Medicaid. While we have yet to hear from the federal government on the final cuts in the Medicare program, we have heard considerable from the South Carolina Department of Social Services on the cuts in Medicaid.

It appears at this writing that there will be major cuts in the South Carolina Medicaid program. For instance, as of July 1, our fees for services were frozen. And among other limitations are 18 visits per year per Medicaid recipient. Now it appears that there are going to be further cuts which may necessitate going to a limit of nine outpatient visits per year per Medicaid recipient and a limit of only three prescriptions per month per patient. (Whoever suggested this last obviously doesn't have to treat a patient with HCVD and diabetes.)

We in the medical association feel that presently proposed budget changes by DSS will have a very bad effect on the health of the poor in South Carolina. After all, physicians' services, as a category, are only 5.29 percent of the Medicaid budget, and it seems at this time that disproportionately large cuts will be made from physician care. Nursing home care is 43.88 percent of the Medicaid budget, and inpatient hospital care is 23.99 percent. Since some 44 percent, or $102 million dollars, of Medicaid's current budget is allocated to nursing homes which provide care to only three percent, or 8700 of the 250,000 Medicaid eligibles, it would appear that we should look closely at this area for possible savings.

Your medical association has looked with great care into the cost of nursing homes and feels that it is possible to reduce these costs by $22.8 million without cutting down on the care of nursing home patients. For instance, Alabama, which caps its Medicaid reimbursement at 125 percent of minimum requirements, and South Carolina, with *no* limit, are the only two states in the southeast which reimburse nursing home costs at a rate above minimum requirement.

At this point in time, there are only two things which we as physicians can do, and they are to appeal to the Board of DSS and appeal to the Health Planning and Oversight Committee of the Legislature which has the final say on this budget.

It appears to your President that DSS is following the axioms of the old poem on whether it is best to have a guard rail at the top of the cliff or an ambulance at the bottom. Is it too logical to suggest that proper medical care could serve our indigent patients as a guard rail at the top of the cliff better than the more expensive nursing homes (ambulances at the bottom of the cliff)?

WILLIAM H. HUNTER, M.D., *President*

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CAROTID ENDARTERECTOMY IN THE FACE OF PREVIOUS CONTRALATERAL ENDARTERECTOMY*

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WILLIAM H. PRIOLEAU, JR., M.D.
PETER HAIRSTON, M.D.

Carotid endarterectomy has been demonstrated to be an effective operation for the treatment of ischemic attacks and threatened strokes in the presence of extracranial carotid lesions. The physician, in selecting those patients who might benefit from carotid endarterectomy must consider the natural course of the disease, alternate forms of therapy, the long-term benefits and the risks of the operative procedure. Atheromatous deposits are likely to be found bilaterally. Remaining disease in the unoperated side places the patient at a significant risk for ischemic events in that territorial distribution.[1,2,3] On the other hand, the hazards of a second operation on the contralateral carotid artery have been stressed. The Joint Study of Extracranial Arterial Occlusion reported an incidence of strokes, following a second side operation, five times greater than after unilateral endarterectomy.[3]

This retrospective study reviews an experience with 135 patients who underwent unilateral carotid endarterectomy and 63 patients undergoing staged bilateral endarterectomy regardless of the use or nonuse of a bypass shunt. In addition, the influence of severe or mild contralateral disease at the time of endarterectomy was evaluated.

MATERIALS AND METHODS

Three hundred seventeen consecutive carotid endarterectomies performed by fifteen board certified surgeons formed the basis of this report. A variety of signs and symptoms provided the indication for surgery, as summarized in Table 1. In an analysis of both the unilateral surgical group and the bilateral surgical group, severity or urgency of symptoms were equally represented, but clearly more asymptomatic patients were represented in the second side operations as most patients in this category were coincidentally found to have a second side lesion. In both groups, the symptoms most frequently encountered were dizziness, transient motor weakness and loss of vision.

All operative procedures were performed under general endotracheal anesthesia, maintaining normocarbia and guarding against elevated or depressed blood pressures.

To focus on the issue of unilateral versus bilateral surgery an effort was made to standardize the series. Thus, patients were excluded from the

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* Presented at the fifth Curtis P. Artz Society Meeting, Charleston, S. C., May 23-25, 1980.
** Address correspondence to Dr. Voegele at Ashley House, Lockwood Blvd., Charleston, S. C. 29401.

Table 1

SIGNS AND SYMPTOMS RELATED TO INDICATION FOR SURGERY

Asymptomatic	7%
Previous Residual Stroke	18%
T. I. A.	30%
Dysarthria	
Aphasia	
Motor Weakness	
Visual Disturbances	
Numbness	
Dizziness	70%
Vertigo	10%
Bruits	20%

series for any of the following reasons: (1) Preoperative neurologic instability. (2) Total occlusion of either carotid artery. (3) Obvious complications with the management of the operation itself. (4) Operations for recurrent stenosis. (5) Concurrent other operations. (6) Incomplete medical chart. By eliminating the above categories there remained 135 patients who underwent unilateral endarterectomy and 63 who underwent bilateral operations, staged from three days to six months. In 128 carotid endarterectomies (49%) intraoperative shunting was employed. There were 112 men and 86 women. The average age of the patients undergoing one-side operations was 63 years (Fig. 1), that of patients undergoing staged operations was 62 years (Fig. 2). Ages ranged from 32 to 82 years. This series then was analyzed for the occurrence of stroke and mortality as a function of unilateral operation or bilateral staged operation (Table 2).

To evaluate the importance of contralateral carotid artery circulation during the performance of endarterectomy, the incidence of stroke was determined as a function of the presense of contralateral high grade or low grade stenosis relative to the artery being operated upon. The records of 175 patients were adequate to review this information. Cases where the stenosis was described as mild, moderate, 50% or less, and previously endarterectomized contralateral arteries were placed in a group of low grade stenosis. Cases described as greater than 50% stenosis or severe were placed in a high grade stenosis group.

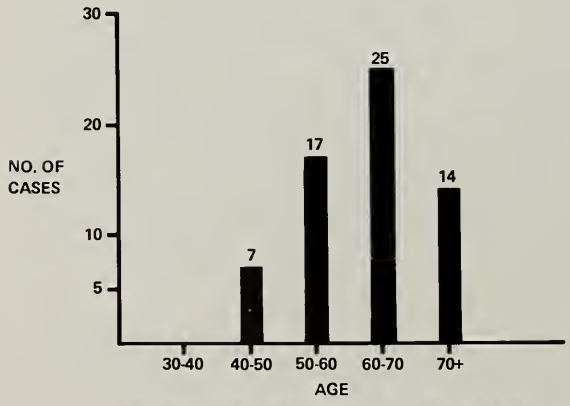

FIGURE 1: AGE DISTRIBUTION IN UNILATERAL SURGERY

RESULTS

There were 13 strokes (5%) and three deaths (1.5%) in the 261 operations performed on 198 patients. Four strokes were described as showing significant clearing by the time the patient was discharged from the hospital. Six strokes followed unilateral carotid endarterectomy. The one patient who died in this group had successfully withstood carotid operation and was await-

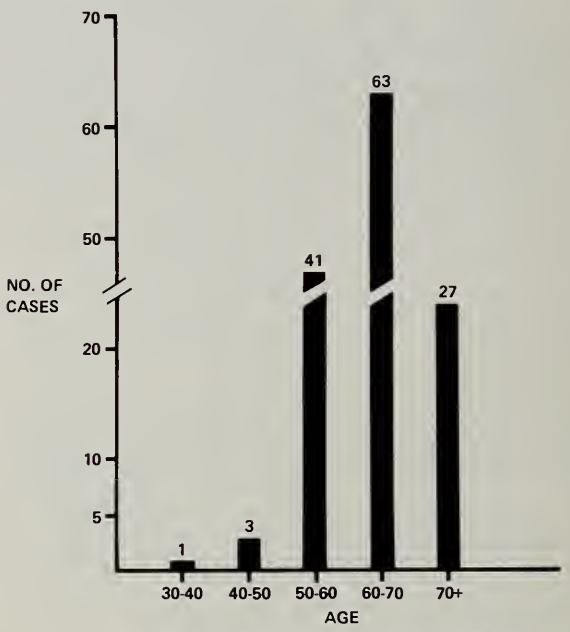

FIGURE 2: AGE DISTRIBUTION IN BILATERAL SURGERY

Table 2

INCIDENCE OF STROKE AND MORTALITY RELATED TO UNILATERAL OR BILATERAL SURGERY

Stroke	*Unilateral*	*Bilateral*
0	129	56
1	6	6
2	—	1
Total	135	63
Mortality	1	2

ing coronary artery surgery. In the group of patients undergoing bilateral carotid operations, one patient suffered a stroke after the first operation only, and five patients were afflicted with a neurologic deficit following the second operation. No second operation which was performed less than two weeks following the first side operation resulted in a stroke. One patient suffered a stroke after each endarterectomy with slow clearing by discharge time. Two deaths were reported among patients in the bilateral operations group. One patient died of a massive cerebrovascular accident and the other died following a myocardial infarction on the fourth postoperative day.

The use or nonuse of shunts depended strictly on the individual preference of the operating surgeon. Overall, forty-nine percent were shunted and 51% had endarterectomy performed without any shunting. Occlusion times were uniformly longer in the nonshunted cases and shorter, on the average, in the shunted cases. Occlusion time appeared to have no relation to the incidence of stroke as noted in a previous report.[4]

The incidence of stroke was not related to the severity of contralateral stenosis at the time of operation. The records of 175 patients contained appropriate information to classify carotid arteries on the basis of low grade or high grade contralateral stenosis at the time of each surgical procedure (Table 3). Thus, one hundred patients underwent unilateral carotid endarterectomy in the face of noncritical contralateral stenosis. Three neurologic deficits appropriate to the operated side were observed. Conversely, 14 patients demonstrated severe contralateral stenosis at the time of their unilateral endarterectomy. Two patients suffered neurologic deficits in this group. In patients undergoing bilateral operations, the surgeon was contemplating operation in the face of low grade contralateral occlusion in 31 instances with six neurologic deficits. On the other hand, when the contralateral carotid artery was severely stenosed, only one stroke was seen.

Table 3

STROKES RELATED TO SEVERITY OF OCCLUSIVE DISEASE CONTRALATERAL TO OPERATED ARTERY

	Unilateral		*Bilateral*	
	Surgery	*Stroke*	*Surgery*	*Stroke*
High Grade ..	14	2	30	1
Low Grade ..	100	3	91	6

DISCUSSION

In considering the several factors which confront the physician in selecting patients who might benefit from carotid endarterectomy, the natural course of the disease and the risk of operative intervention rank foremost as factors. It is in this regard that the clinical significance of a lesion in the contralateral carotid artery must not be overlooked. That atheromatous lesions can and usually do progress has been shown.[5, 1] In 1970, the Joint Study of Extracranial Arterial Occlusion showed that transient ischemic attacks recurred in 38% of surgically treated patients, mainly in territory not affected by operation.[3] Whereas some authors have mentioned the relatively low risk of these asymptomatic contralateral stenoses,[2, 6] preliminary warning transient ischemia cannot be relied upon as a guide, as a significant number of patients have a full stroke as a first event.[7, 8]

Regardless of the presenting indications, the harzards of the second operation on the contralateral carotid artery have been stressed.[3, 9] The patients should be properly selected and in that regard it is pertinent to consider the fate of patients who undergo carotid endarterectomy on the contralateral artery. As pointed out by others these patients have a limited prognosis.[2, 8, 10] Mortality and morbidity are usually on the basis of cardiac disease; but as coronary artery surgery has altered the outlook for this prognostic group, more aggressive consideration of the second carotid lesion is warranted. In other words, if mortality from heart disease will be expected to drop, then treatment of the carotid atheromatous lesion takes on greater significance. In this retrospective series of 198 patients who underwent 261 carotid endarterectomies, 135 patients underwent single side operation while 63 patients underwent bilateral staged endarterectomies. Morbidity and mortality figures were very similar in both groups. These data would suggest that the operative risk for a second side carotid endarterectomy equals but does not exceed that for each individual procedure.

SUMMARY

A standardized series of 261 carotid endarterectomies performed on 198 consecutive patients was reviewed. One hundred thirty-five patients underwent operation on a single side, resulting in six neurologic motor deficits and one

death. Sixty-three patients underwent bilateral operations, staged with intervals varying from three days to six months, resulting in six motor deficits and two deaths. Carotid endarterectomy was performed in the face of significant contralateral stenosis in 22 percent of the patients, most of whom subsequently underwent delayed second side operations. Neither severity of contralateral stenosis nor performance of contralateral carotid endarterectomy correlated with incidence of stroke. The operative risk for a second side carotid endarterectomy equals that for a single procedure. □

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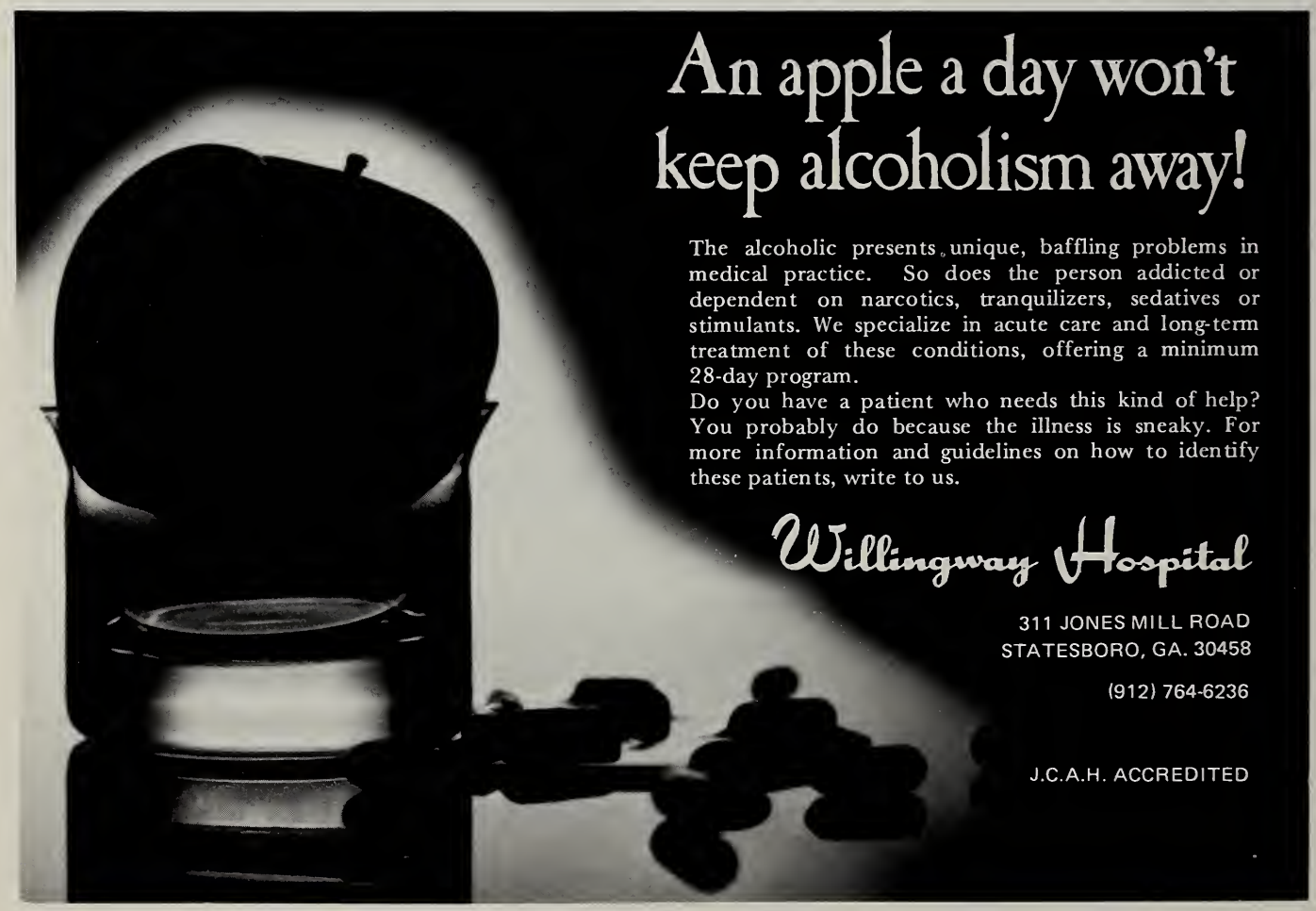

ELECTRON BEAM THERAPY IN SOUTH CAROLINA*

RICHARD H. FITZGERALD, JR., M.D.
JIMMY O. FENN, Ph.D.

South Carolina now contains four radiation therapy facilities with the capability of generating therapeutic electron beams. Since the general availability of electron treatment of patients with cancer is a fairly new development, we think that a discussion of general concepts of this modality might be appropriate.

The principles of treatment using any ionizing radiation are the same. It is the rare situation where the electron beam provides the only appropriate method of treatment. It is a tool capable of allowing certain refinements of therapy. Electrons differ slightly from conventional x-rays in their means of generation; and, more importantly, differ in their behavior within the patient who is being treated.

GENERATION OF THE ELECTRON BEAM

X-ray and electron beam generation have similar beginnings. Both require that electrons be produced within an evacuated tube by passing a current through a filament much as the process in a simple incandescent light bulb. (Figure 1A) The greater the current through the coiled tungsten filament, the more electrons produced by thermionic emission. A separate circuitry provides a protential across the vacuum which propels the electrons from the filament which constitutes the cathode toward an anode with a positive charge at the opposite end of the tube. (Figure 1B) The greater the potential between the cathode and anode, the more acceleration given the electrons; and, thus, the more kinetic energy they possess. If the tube is linear, it is called a linear accelerator.

A target is placed at the anode end. Bombardment of the target by the stream of electrons conforms to the law of preservation of energy resulting in the generation of heat and packets of energy termed photons which are called x-rays. (Figure 1C) This is an inefficient system. At low energies, most of the kinetic energy of the electrons is dissipated as heat within the target and little is converted into x-rays. If the tube has a mechanism to move the target from the stream of electrons, they can exit the tube and be applied directly in therapy after appropriate modification and field collimation. The electron beam is, thus, a more efficient use of the linear accelerator principal which requires more sophisticated engineering to provide a moveable target and different collimation mechanisms.

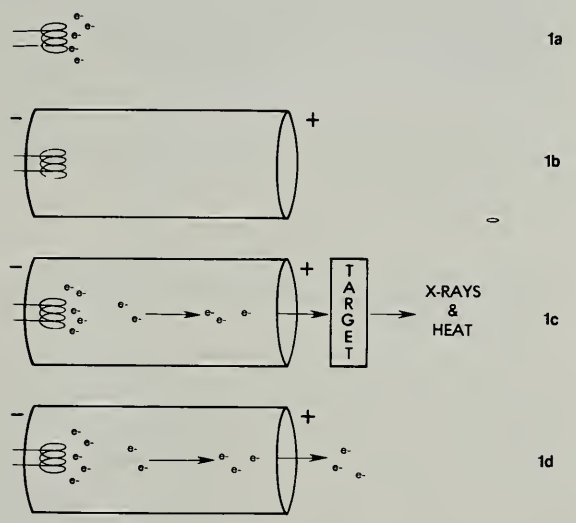

FIGURE 1

1A Schematically depicts thermionic emission of electrons during passage of a current through a tungsten filament
1B An evacuated tube with an electric potential
1C Propulsion of electrons across the tube to strike a target with resultant production of heat and x-rays
1D Modified tube with removal of the x-ray producing target thereby allowing direct application of electrons in therapy

* From the Division of Radiation Therapy, Medical University of South Carolina, 171 Ashley Avenue, Charleston, S. C. 29401.

ENERGY DEPOSITION

Both electrons and x-rays are classified as ionizing radiation, i.e., they produce damage by ionizing atoms and molecules in the material they strike. The mechanism by which they produce ionization, however, is somewhat different. X-rays and gamma rays are electromagnetic radiation, the same as visible light but higher in energy. These rays contain only energy but not mass (as commonly denoted) or charge. Because of this, these rays can move through a material (which at the atomic level is mostly space) and have only a very low probability of interacting with an atom in the material. Eventually the x-ray may strike an electron in the material and give all or part of its energy to the electron. This electron will then move through the material interacting rapidly with other electrons and atoms producing relatively dense ionization tracts.

An electron on the other hand has charge and mass. Because of its mass, it usually moves slower than an x-ray and because of its charge, it is essentially orders of magnitude larger in size than an x-ray. These properties cause the electron to interact much more rapidly than an x-ray and thus have a more limited range than an x-ray. Thus, the magnitude of damage is essentially the same for these two types of radiation. The electron beam has a more limited range since the x-ray must first hit an electron in the irradiated material before producing the numerous ionization that causes the biological effect associated with radiation.

COMPARISON WITH OTHER FORMS OF IRRADIATION

A comparison with other forms of irradiation is indicated to establish what makes electron beam therapy unique. An earlier generation of x-ray equipment produced low energy x-rays which deposited much of the dose at the surface of the skin. (Figure 2) This is due to the above mentioned secondarily generated electrons being scattered in all directions including backwards or 180° from the incident beam. Contemporary megavoltage x-rays more commonly used in therapy today generate more energetic secondary electrons which move in a more forward direction depositing energy deep beneath the skin. It is unusual, now, to see the intense skin reaction so common with x-ray therapy of a decade or more ago.

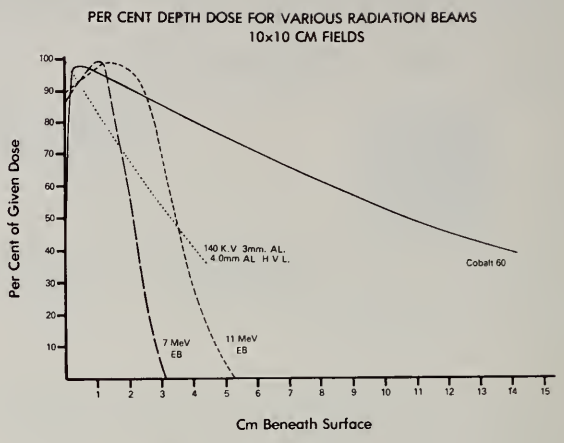

FIGURE 2: This graph depicts the percentage depth dose relative to 100% of each of four commonly used therapeutic beams. Low energy x-rays, Cobalt 60 gamma rays and 7 and 11 Mev electron beams are shown. The Cobalt 60 curve approximates that of 4 Mev x-rays. The skin dose relative to the point of maximum dose, depth of maximum dose, and pattern of decrease of dose are indicated.

The electron beam energies used in therapy range from three million electron volts to 45 million electron volts. Ionization patterns are primarily in a forward direction. Some energy is deposited backwards and with the commonly used energies there is some skin sparing but less than that provided by the higher energy x-rays. (Figure 2) In addition to modest skin sparing, electrons have limited penetration with abrupt diminution of dose. These two properties of skin sparing and limited depth of penetration are what distinguishes electron beam from x-ray therapy. Electrons have their primary use in lesions more closely approximating a skin surface, thereby demanding that less tissue be traversed by the high energy beam. Electrons can also be used in a multitude of combinations with high energy x-rays to provide the skin sparing of high energy x-rays while minimizing with electrons the dose to deeper areas. This versatility coupled with the availability of more sophisticated diagnostic techniques to define tumor volumes and therapy machine simulators to establish the safest and most reproducible way to treat the volume of interest and limit extraneous tissues has provided broadened capability for safer treatment of patients selected for radiation therapy.

AREAS OF PARTICULAR USEFULNESS OF THE ELECTRON BEAM

A convenient way to present electron beam usefulness is anatomic.

I. *Skin*

A. Skin Carcinoma

Carcinoma of the skin can be treated with the electron beam utilizing the indications one would employ in selecting orthovoltage x-rays. Areas of the eyelid, canthus, scalp, and ear are treatable with radiation. When a plastic procedure is not thought appropriate, irradiation should be considered either with orthovoltage or with the electron beam.

B. Lymphoma Cutis

Mycosis fungoides is a T-cell lymphoma primarily involving skin. Small areas can be treated nicely with topical mustargen and small thickened areas are treatable with orthovoltage (lower energy) x-rays. However, when large areas are involved, it is desirable to avoid skin sensitization by topical agents and limits the depth dose given by orthovoltage. Since the early 1950's, total body therapy with electron beam has been a mainstay of therapy of patients with diffuse cutaneous mycosis fungoides. The entire body may be safely treated without affecting marrow or gastrointestinal tract. When the more common non-mycosis lymphomas involve skin, the areas can similarly be treated with the electron beam.

C. Chest Wall

Following a decision to undertake mastectomy, if there has been skin invasion or a high probability or recurrence exists in the chest wall, it may be desirable to treat the area. This can be done with the electron beam. If the surgical scar or drain site is placed beyond the usual confines of therapy, a limited field using electron beam can be used to encompass those areas. Patients who have previously been treated and develop a recurrence of disease on the chest wall can at times be retreated to smaller volumes with the electron beam.

D. Skin Metastases in Dermis, Scar or Perineum:

Metastatic lesions involving the dermis may ulcerate and be refractory to chemotherapy. If the mass is not thicker than the capability of the electron beam, it may be treated with this modality.

II. *Upper Aero-Digestive Area*

Lesions of the buccal mucosa, lip, nose, parotid, and the area of a tracheal stoma can be efficiently treated with the electron beam.

III. *Lymph Nodes*

Patients with lymph nodes overlying a sensitive structure which prohibits high dose x-ray irradiation may be treated with electron fields thereby providing a high dose to the node while sparing the deeper structures. (Figure 3)

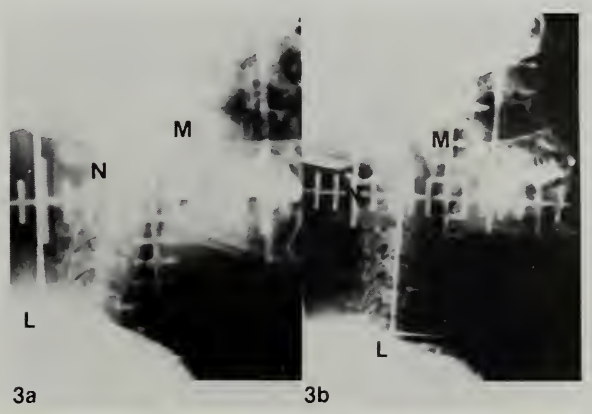

FIGURE 3: Figure 3A is an x-ray of a lateral treatment portal used to treat a patient with superficial posterior neck nodes (N) from a nasopharyngeal carcinoma (M). The primary lesion is responding nicely but continued lateral treatment to sterilize the node may give a higher dose than the spinal cord can safely tolerate. When the posterior aspect of the portal is reduced off the spinal cord (L) as in Figure 3B, the node may no longer be treated. An electron beam field applied posteriorly to the reduced portal will allow a high dose to the node while not jeopardizing the spinal cord.

IV. *Superficial Miscellaneous Tumors*

A. Ribs

Metastatic lesions to the ribs or primary lesions involving the soft tissues of the chest wall may be treated with the electron beam.

B. Soft Tissue Sarcomas

Soft tissue sarcomas which arise in an area

amenable to this modality lend themselves nicely to therapy which will encompass the sarcoma and adjacent areas while sparing normal tissues. (Figure 4)

V. *Choroidal Metastases*

Metastatic deposits on the posterior aspect of the orbit or choroid can be treated with the electron beam without delivering high doses of irradiation to the contralateral eye or brain.

SUMMARY

Electron beam therapy of patients with malignancy is becoming more generally available. The linear accelerator production of the electron beam demands conceptual differences in equipment and more elaborate engineering. Though virtually no area can be treated solely with the electron beam, it is a tool which provides refinement of treatment capabilities by limiting the depth of penetration of the ionizing radiation while also limiting in part the dose received at the skin surface. Lesions close to the skin are most amenable to consideration for treatment with the electron beam alone or in conjunction with high energy x-rays. □

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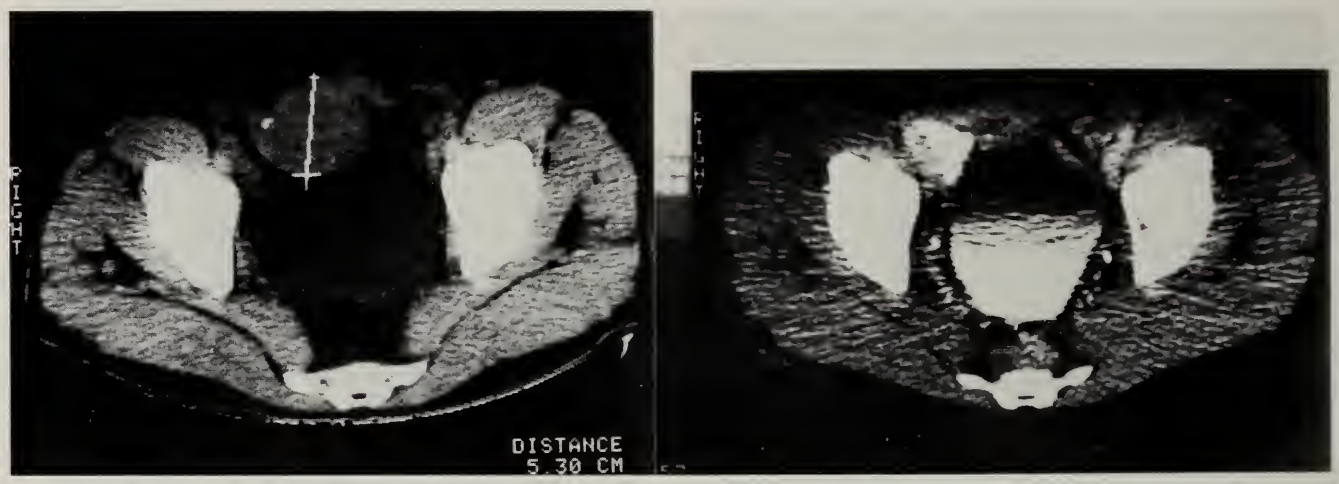

FIGURE 4: Figure 4A is a CT scan depicting a soft tissue sarcoma which recurred in the abdominal wall of a young man who had had incomplete prior therapy. In an attempt to cure this lesion yet avoid as much as was possible the pelvic structures, megavoltage x-ray therapy was given resulting in an almost normal appearing CT scan. The available electron beam could encompass the soft tissue depth making it possible to give higher doses to the sarcoma while sparing the deeper structures.

ABBREVIATED ACRONYMIC MEDICINE: A NEVER ENDING GAME (AAMANEG)

WILLIAM C. CANTEY, M.D., F.A.C.S.*

A NH is a LTCF in the parlance of the PSRO of the SCMCF according to V.P., DRM, B.S., M.D., B.C., F.A.C.P.

> Translation: A Nursing Home is a Long-Term Care Facility in the parlance of the Professional Standards Review Organization of the South Carolina Medical Care Foundation according to Vice President, Doe Ray Mee, Bachelor of Science, Doctor of Medicine, Board Certified, Fellow of the American College of Physicians.

Pt. WDN, NCF, c̄ DM, HCVD, CBS, c/o SOB, PVC's and unable to carry on ADL — etc., etc.

> Translation: Patient is a well developed and nourished normal Caucasian female with Diabetes Mellitus, Hypertensive Cardiovascular Disease and Chronic Brain Syndrome, complaining of shortness of breath, premature ventricular contractions and unable to carry on her activities of daily living et cetera, et cetera.

Since leaving the active practice of Clinical Surgery, I have had an opportunity to review many hospital and nursing home charts and have recorded some of the abbreviations and acronyms which I could decipher. It is interesting to see how indigenous some of these are, for the nurses and doctors in Columbia, Florence, Loris, Charleston, Seneca and Chester have their own ways of shortening a word or phrase. Each specialty could add many more to those listed and the result is a game which has no ending —

Below are my contributions:

* Medical Director, South Carolina Medical Care Foundation, P. O. Box 21667, Columbia, S. C. 29221.

ABBREVIATIONS AND ACRONYMS

A

ā	after
ABG	arterial blood gases
AC	before meals
ADL	Activities of Daily Living
AGN	Acute Glombolar Necrosis
AK	above knee
ALS	Amyotrophic Lateral Sclerosis
AMA	Against Medical Advice
AP	Attending Physician
ASA	aspirin
ASHD	Arterio-sclerotic Heart Disease
Ax	Axillary (temperature)

B

B&B	bowel & bladder (training)
BCP	Birth Control Pills
BHP	Benign Hypertrophic Prostate
BHPR	Benign Hypertrophic Prostatic Resection
B.i.d.	Two times a day
BK	below knee
BMR	Basal Metabolic Rate
BOP	Blood, ova, parasites (feces)
BP	Blood Pressure
BPH	Benign Prostatic Hypertrophy
BRP	Bathroom privileges
BS	Blood sugar
BUN	Blood urea nitrogen

C

C	coughing
c̄	with
Ca	Carcinoma
CAT	Computerized Axial Tomography
CBC	Complete Blood Count
CBP	Common Bile Duct
CBS	Chronic Brain Syndrome
CC	Chief Complaint

CCT Creatinine Clearance Test
CCU Coronary (cardiac) care unit
CHF Congestive Heart Failure
CM Crossmatch — also XM
CME Continuing Medical Education
CNS Central Nervous System
c/o Complaining of
COPD Chronic obstructive pulmonary disease
CPK Creatine Prosphokinase
CPR Cardio-pulmonary Resusitation
CRNA Certified Registered Nurse Anesthetist
CT Computerized Axial Tomography
CVA Cerebrovascular Accident
CVAD Cerebrovascular Arterial Disease
CVP Central venous pressure
CX. Chest x-ray

D

DB Deep breathing
DBS Daily blood sugar
D&C Dilation & Curettage
D/C discharge — discontinue
DES Diethylstilbestrol
DIC Disseminated Intravascular Coagulopathy
DM Diabetes Mellitus
DOB Date of Birth
DOC Date of Confinement
DON Directress of Nurses — also DN
DP Discharge planning
DS Discharge Summary
dsg dressing
DTR Deep tendon reflexes
DUB Dysfunctional uterine bleeding
DUR Drug Utilization Review
DVT Deep Vein Thrombosis
Dx Diagnosis

E

EBL Estimated Blood Loss
ECG Electrocardiogram
ED Emergency Department
EDC Estimated Date of Confinement
EEG Electroencephalogram
EGD Esophago-gastro-duodenoscopy
EDG Electrocardiogram
Elites Electrotytes
EMG Electromyelogram
EMS Emergency Medical Services
ENT Ear, Nose & Throat
ER Emergency Room
ERCP Endoscopic Retrograde Cholangiopancreatoscopy
ESRD End State Renal Disease
ESP Extra Sensory Perception
ESR Erythrocyte Sedimentation Rate

F

FBS Fasting Blood sugar
FFP Fresh Frozen Plasma
FH Family History
FHS Fetal Heart Sounds
FHT Fetal Heart Tones
FLK Funny Looking Kid
FP Family Practice — Family Physician
FUB Functional Uterine Bleeding
FUO Fever of unknown origin
Fx Fracture

G

GB Gallbladder
GKID God knows, I don't
gtt drop
GTT Glucose Tolerance Test

H

HAA Hepatitis Associated Antigen
H&P History & Physical
Hb Hemoglobin
Hct. Hematocrit
HCVD Hypertensive Cardiovascular Disease
HICF Hospital Insurance Claim Form
h.s. Bedtime — (hours sleep)
HNP Herniated Nucleus Pulposa
HNV Has not voided
HR Heart rate

I

ICF Intermediate Care Facility
ICU Intensive Care Unit
IM Intramuscular
I&O Intake & Output
IPPB Inspiratory Positive Pressure Breathing
ITP Indiopathic Thrombocytopenic Pupura
IUD Intrauterine Device
IUP Intrauterine Pregnancy
IV Intravenous
IVP Intravenous Pyelogram — Push
IVPB Intravenous Piggy Back

L

LDH Lactic Dehydrogenase
LEP Lipoprotein Electrophoresis

Lites	Electrolytes
L/M	Liters per minute
LMD	Local Medical Doctor
LOA	Leave of Absence
LOC	Level of Care
LOS	Length of Stay
LTC	Long-Term Care (Facility)
LTCR	Long-Term Care Review

M

MAC	Maximum Allowable Cost
MAP	Medical Audit Program; mean arterial pressure
MCE	Medical Care Evaluation (Study)
MD	Muscular Dystrophy
MI	Myocardial Infarction
M-K Mix	Marasmus-Kwashiokor Mix
MOU	Memorandum of Understanding
MS	Multiple Sclerosis

N

NBF	Normal Black Female
NBM	Normal Black Male
NCF	Normal Caucasian Female
NCM	Normal Caucasian Male
NG	Naso-gastric
N/1	Normal
N&V	Nausea & Vomiting
NN	Nurses Notes
NTG	Nitroglycerin
NPO	Nothing by mouth
NVD	Neck vein distention
NWF	Normal White Female
NWM	Normal White Male

O

OBS	Organic Brain Syndrome
OD	Right eye
OOB	Out of bed
OS	Left eye
OT	Occupational Therapy
OTC	Over the Counter (drugs)
OU	Both Eyes

P

p̄	after
PA	Physician Advisor
PAS	Professional Activities Study
PC	After meals
PCEC	Patient Care Evaluation Committee
PCV	Parietal Cell Vagotomy
PCCU	Post Coronary Care Unit
PEP	Performance Evaluation Procedure
PERLA	Pupils equal, react to light & accommodation
PFT	Pulmonary function tests
PID	Pelvic Inflamatory Disease
PKU	Phenylkentonuria
PMB	Poor Miserable Bastard
PN	Progress Notes
pn	Physician's Notes (progress notes)
po	by mouth
POC	Plan of care
PP	Post Prandial
PP	Primary Physician
PPC	Patient Progressive Care
PPI	Patient Prescription Information (Insert)
PPN	Physician Progress Notes
PPOB	Post Partum Obstretics (sheet)
PRBC	Packed Red Blood Cells
Prn	When necessary (pro re nata)
PT	Physical Therapy
PT	Phrothrombin Time
PTA	Prior to Admission
PVC	Premature Ventricular Contraction
PVD	Peripheral Vascular Disease

Q

q̄	every
QAP	Quality Assurance Program
Qd	everyday
QID	four times a day
QOC	Quality of Care

R

Rx	Treatment
RBBB	Right bundle branch block
RBC	Red blood cells
RFP	Request for Proposal
RLQ	Right Lower Quadrant
RO	Reality Orientation
R/O	Rule out
RPR	Rapid plasma reagent (syphilis)
RJD	Rheumatic joint disease

S

s̄	without
SAA	Same as above
S&A	Sugar and Acetone
SBE	Subacute Bacterial Endocarditis
SBD	Seen by doctor
SCA	Sudden Cardiac Arrest

SGOT	Serum Glutamic Oxalacetic Transaminase
SI	Serious Illness
SK	Spleen, Kidney (palpated)
SMA	Sequential Multiple Analyser
SMI	Supplemental Medical Insurance
SNF	Skilled Nursing Facility
SO	Significant Other (person)
SOB	Shortness of breath
SOP	Some other person
SOP	Standard Operating Procedure
ST	Speech Therapy

T

TAH	Total Abdominal Hysterectomy
Tb	Tuberculosis
TBLC	Term Birth — Living child
TED	Thrombo-embolic disease (hose)
THR	Total Hip Replacement
TIA	Transient Ischemic Attack
t.i.d.	three times a day
TL	Tubal Ligation
TM	Tympanic Membranes
TSH	Thyroid Stimulating Hormone
TVH	Total Vaginal Hysterectomy
Tx	Treatment
Txed	Treated
TUR	Transurethral Resection
TURP	Transurethral Resection Prostate

U

U	Urine
UA	Urine Analysis
UGI	Upper Gastrointestinal
UTI	Urinary Tract Infection
URI	Upper Respiratory Infection

V

VDRL	Venereal Disease Research Laboratories
VS	Vital Signs

W

WBC	White Blood Cells
W/C	Wheelchair
W/D	Skin warm and dry
Wnl	Within normal limits
W/P	Whirlpool

The author is now a PMB c̄ SOB and is leaving for a meeting of the AAAE (American Association of Airport Executives) where I will meet friends for the AOCI (Airport Operators Council International). It is to be in Tx. □

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Today's Tradition: Tegopen®

(cloxacillin sodium)

for the treatment* of known or suspected staphylococcal infections such as:

- Acute sinusitis
- Furunculosis and carbuncles
- Impetigo
- Secondarily infected dermatitis
- Cellulitis
- Abscesses
- Infected sebaceous cysts

In serious, deep-seated staph infections, 500 mg q.i.d. dosage is recommended.†

- Tegopen has been reported active against 96% of *Staphylococcus aureus*.[2]
- 80% of *S aureus* has been reported resistant to amoxicillin and ampicillin.‡[2]
- 88% of *S aureus* has been reported resistant to penicillins G and V.‡[2]
- Staph resistance to erythromycin may develop during a course of therapy.[3]

Available as 500-mg and 250-mg capsules and Oral Solution 125 mg/5 ml.

Tegopen® (cloxacillin sodium)
Today's Penicillin for Today's Physician

1. Florey HW, Chain E, Heatley NG, et al: *Antibiotics*. London, Oxford University Press, 1949, p 2.
2. Bac-Data Bacteriologic Report, Professional Market Research, 1978-1979. The clinical significance of *in vitro* data is unknown.
3. Erythromycin prescribing information (in *Physicians' Desk Reference*, ed 34. Oradell, NJ, Medical Economics Co, 1980) states that staph resistance may develop during treatment.

See brief summary of prescribing information on an adjoining page.

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*Note: The choice of Tegopen should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates that the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semisynthetic penicillin.

†In serious, life-threatening infections, oral preparations of the penicillinase-resistant penicillins should not be relied on for initial therapy.

‡Not all isolates may have been tested using both discs.

Tegopen®
(cloxacillin sodium)
Capsules and Oral Solution

Brief Summary of Prescribing Information

For complete information, consult Official Package Circular.
(12) 9/11/75

INDICATIONS:

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

IMPORTANT NOTE

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

CONTRAINDICATIONS:

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

WARNING:

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

Safety for use in pregnancy has not been established.

PRECAUTIONS:

The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

ADVERSE REACTIONS:

Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

USUAL DOSAGE:

Adults: 250 mg. q.6h.

Children: 50 mg./Kg./day in equally divided doses q.6h. Children weighing more than 20 Kg. should be given the adult dose. Administer on empty stomach for maximum absorption.

N.B.: INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.

SUPPLIED:

Capsules—250 mg. in bottles of 100. 500 mg. in bottles of 100.
Oral Solution—125 mg./5 ml. in 100 ml. and 200 ml. bottles.

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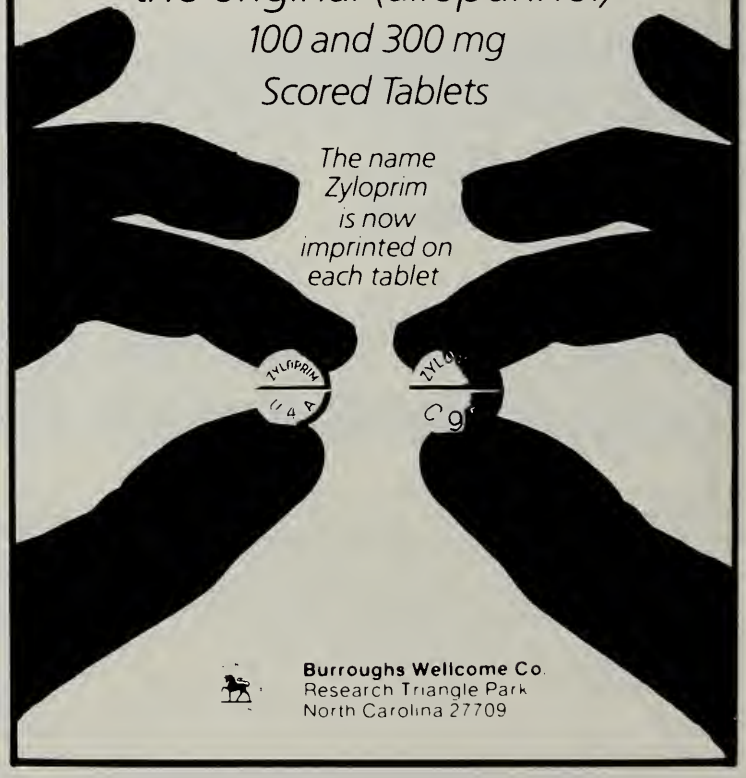

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Research Triangle Park
North Carolina 27709

HOSPITAL ASSOCIATION SURVEYS PUBLIC

ELLEN B. BERCH*

Generally speaking, South Carolinians are satisfied with the hospital care available to them, dissatisfied with its costs, but unwilling to ask the government to regulate cost decreases. These are some of the opinions apparent in the report of a statewide public opinion poll on hospital care and hospital costs, which was conducted in late 1979 by Vismor, McGill & Bell, Inc. for the South Carolina Hospital Association.

More than 70 percent of the respondents expressed satisfaction with the availability of hospital facilities, the quality of hospital facilities and the quality of hospital services in their areas. While more than 60 percent expressed dissatisfaction with the cost of hospital care, more than 50 percent said that more money should be spent to improve hospital care.

Many poll questions centered around the idea of government involvement in health care, especially hospitals. The results show that South Carolinians clearly believe government involvement is costly and government involvement should be reduced.

Government regulations were the third most cited reason for increasing hospital costs (following inflation and malpractice insurance). And no option for reducing those costs that might involve government regulations was favored by a majority. For example: 81 percent of those responding disagreed with the statement that "Hospitals would be run more effectively if managed by the government;" 57 percent opposed the notion that government should regulate hospital charges; 74 percent opposed the notion that government should regulate the type of services a hospital can offer; and when asked about the perceived present involvement of government influence in major hospital policy making and the desired influence, 82 percent perceived that government presently has some or very much influence in this area, but only 38 percent desired the government to have some or very much influence.

Many respondents also opposed often-suggested methods for reducing the rate of increase in health care costs: 70 percent were opposed to the suggestion that the number of hospital beds should be reduced; 63 percent opposed the idea that the purchase of medical equipment should be reduced; and 64 percent said they had no desire to have deductible health care insurance policies.

The only two cost containment notions which received majority support were voluntary cost containment and shared services.

Almost 75 percent supported the notion that hospitals in the same area should be required to combine services if and when possible. And an overwhelming 90.6 percent liked the idea that hospitals should be encouraged to participate in a program to contain costs voluntarily.

The survey of public opinions toward hospital care and hospital costs in South Carolina was based on a stratified random sample mail survey of 40 areas around the state. Based on an analysis of statewide demographics and survey participants, Vismor McGill and Bell, Inc. believes that the survey participants effectively represent a cross-section of South Carolina households with a confidence level of 99 percent and a reliability factor of plus or minus 2.6 percent.

The firm emphasized in its report to SCHA that responses represent personal opinions and perceptions, which may or may not reflect actual facts. They also noted that participants in the survey showed a relatively high percent of direct contact with hospitals over the previous year. Almost 50 percent of those responding indicated that they, or an immediate family member, had been hospitalized during the past 52 weeks.

* Vice President for Public Relations, South Carolina Hospital Association, P. O. Box 1236, West Columbia, S. C. 29171.

THE QUALITY OF HOSPITAL CARE IN SOUTH CAROLINA

South Carolinians are generally satisfied with the quality of health care available within the state. Moreover, a majority believes that more money should be spent to further improve hospital care. Even in light of these attitudes, a significant majority also feels that the cost of care is high for the quality of care received. This attitude, however, is not surprising. Given the declining purchasing power of the dollar, the cost of many goods and services has increased rapidly without an apparent increase in quality.

Item	*Responses*
1. Satisfaction with "the quality of hospital *facilities*"	78% "very satisfied" or "somewhat satisfied"
2. Satisfaction with "the quality of hospital *services*"	73% "very satisfied" or "somewhat satisfied"
3. Rating of the "quality of hospital services in South Carolina" versus elsewhere	38% "same" 39% "don't know"
4. "More money should be spent to improve hospital care"	57% "agree" or "strongly agree"
5. "Do you think the *quality* of hospital care provided by hospitals is worth the *cost* of the care"	72% "cost is fairly high" or "very high for the quality of care received"

THE COST OF HOSPITAL CARE

Again, the cost of hospital care is of obvious concern to a majority of South Carolinians. They view many factors as contributing to price increases and, more importantly, the three perceived leading factors in these increases are non-qualitative care influences. Not surprisingly, better quality hospital care is desired . . . and at a less expensive cost. Potential cost saving mechanisms which might involve some inconvenience or reduction in services, however, are opposed by a majority of citizens.

Item	*Response*
1. Satisfaction with the "cost of hospital care"	63% "very dissatisfied" or somewhat dissatisfied"
2. Hospital cost increases compared to cost increases on other products and services	69% "faster" or "much faster"
3. Above average influences for cost increases (in rank order)	(1) inflation (2) Malpractice Insurance (3) Government Regulations (4) New Buildings (5) Equipment Purchases (6) Unnecessary Use
4. Rating of the "cost of hospital care in South Carolina" versus elsewhere	47% "lower" or "same" 47% "don't know"
5. "Hospital costs have been rising for *good* reasons"	46% "disagree" or "strongly disagree"
6. "More money should be spent to improve hospital care"	57% "agree" or "strongly agree"
7. Potential methods of cost savings for hospitals (without government involvement):	
a. Voluntary cost containment	91% "support"
b. Combine services, if possible	75% "support"
c. Reduce equipment purchases	63% "oppose"
d. "Deductible" insurance	65% "oppose"
e. Reduce number of beds	70% "oppose"

GOVERNMENT PARTICIPATION

The public attitude toward governmental involvement in hospitals is obviously negative. South Carolinians clearly believe government involvement is costly and government involvement should be reduced:

Item	*Response*
1. "Government regulations add significantly to hospital costs."	63% "agree" or "strongly agree"
2. "Hospitals would be run more effectively if managed by the government."	81% "disagree" or "strongly disagree"
3. "Government should regulate hospital charges."	57% "oppose"
4. "Government should regulate the type of services a hospital can offer."	74% "oppose"
5. "Government regulations influence on hospital cost increases."	39% "considerable"
6. (a) Current perception of government influence in major hospital policy making.	82% "some" or "very much"
(b) Desired government influence in major hospital policy making	38% "some" or "very much"

□

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This 100-year-old is the American Red Cross. That's right. And Red Cross is helping businesses like yours stay healthy and safe with CPR—cardiopulmonary resuscitation—a first aid method for sustaining life when a heart stops beating and breathing stops. And it happens every day. If it happened to an employee on the job, would you ... would anyone know what to do until help arrived? Permanent brain damage or death can result in a matter of minutes ... unless someone there knows CPR.

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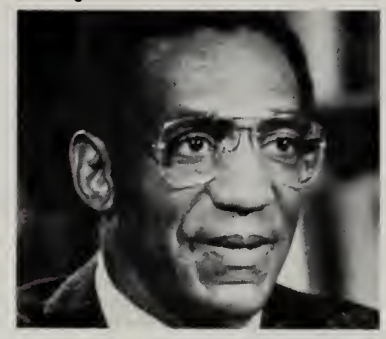

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CYCLAPEN®-W (cyclacillin)

Indications
Cyclacillin has less in vitro activity than other drugs in the ampicillin class and its use should be confined to these indications: Treatment of the following infections:

RESPIRATORY TRACT
- Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci
- Bronchitis and pneumonia caused by *S. pneumoniae* (formerly *D. pneumoniae*)
- Otitis media caused by *S. pneumoniae* (formerly *D. pneumoniae*) and *H. influenzae*
- Acute exacerbation of chronic bronchitis caused by *H. influenzae**
- *Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*.

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, nonpenicillinase producers.

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing.

Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins.

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY: Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS: It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age.

Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spaced doses)

INFECTION	ADULTS	CHILDREN*
Respiratory Tract		
Tonsillitis & Pharyngitis	250 mg q.i.d.	body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d.
Bronchitis and Pneumonia		
Mild or Moderate Infections	250 mg q.i.d.	50 mg/kg/day q.i.d.
Chronic Infections	500 mg q.i.d.	100 mg/kg/day q.i.d.
Otitis Media	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Skin & Skin Structures	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Urinary Tract	500 mg q.i.d.	100 mg/kg/day

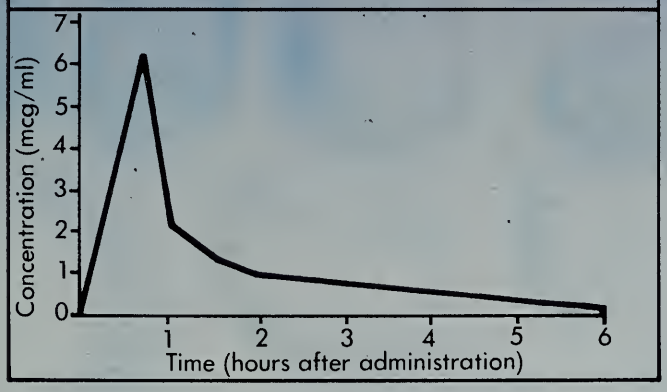
*Dosage should not result in a dose higher than that for adults.
†depending on severity

Wyeth Laboratories
Philadelphia, Pa 19101

Half the dose is absorbed in 9 minutes!

compared to 32 minutes for ampicillin.*

Mean blood levels in mcg/ml after 250 mg cyclacillin single oral dose



- Rapid, virtually complete absorption from GI tract
- Exceptionally high peak blood levels – 3 times greater than ampicillin (Clinical efficacy may not always correlate with blood levels.)
- Rapidly excreted unchanged in urine – 1½ times faster than ampicillin

*Based on T^{a} ½ values for single oral doses of 500 mg cyclacillin tablet and 500 mg ampicillin capsule. Data on file, Wyeth Laboratories.

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Wyeth Laboratories • Philadelphia, Pa 19101

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Editorials

ELECTION '80 — DOUBLE DIGIT INFLATION AND THE SIXTEENTH AMENDMENT

Much of America was expectantly seated in front of TV sets on the night of November 4 to watch the election returns. Just two days before, pollsters had judged the Presidential race too close to call. Before air time, TV commentators were probably practicing their election year jargon, enjoying the quadrennial use of such words as "cliffhanger" and "landslide". A landslide had not been foreseen, but before the polls had closed in the midwest, victory was being projected for Mr. Reagan; and before poll closing time on the west coast, TV newsmen were indeed predicting a landslide. From that point, the networks held the interest of the TV viewing public by closely following the Senatorial cliffhangers.

Everyone is aware that the results in the Presidential election and certain key Senatorial races indicated a definite swing away from Liberalism. The political principles voiced by Mr. Reagan in his campaign were essentially unchanged in the twelve years he had been championing the conservative cause, and Barry Goldwater had initiated the effort ten years before that. After twenty years, why did voting America begin to accept the views expressed by Mr. Reagan? Analysts have attributed the voter defection from President Carter to various factors, including the economy, the hostage situation, inflation, and indecision in the Oval Office. Certainly, voters' negative feelings about Mr. Carter must have had a major influence on the Presidential election, but dissatisfaction with the incumbent President would not account for the ousting of six liberal Senators who held significant seniority. Could it be that the weight of the Sixteenth Amendment to the Constitution became so heavy under the influence of double digit inflation that more taxpayers went to the polls on November 4th than ever before?

Income was not taxed in the United States until 1909 when corporate income tax went into effect, to be followed by a tax on personal income in 1913 — authorized by the Sixteenth Amendment to the Constitution. The income tax in 1913 was all of one percent of the first $5,000 after a $3,000 exemption for single persons and $4,000 exemption for married persons. It was a progressive tax and jumped to two percent up to $75,000, three percent up to $100,000, four percent up to $250,000, five percent up to $500,000, and six percent over $500,000. Prior to its passage, when the Sixteenth Amendment was being debated in Congress, it has been said that some of the solons had suggested a ceiling on the tax, but others said a ceiling would not be necessary because if the tax ever rose to over five percent, the American public would rise up in rebellion. It is unlikely that anyone in 1913 would have predicted two global wars in the next 25 years. Before World War Two, the basic tax rate was four percent, and by 1944 it was 23 percent and personal exemptions had been dropped to $500.00.

The growth of the federal government in the years following World War Two has extracted from our productive citizens greater and greater tax revenues, as one would expect in an expanding or inflationary economy where increasing earnings are subjected to progressively increasing rates of taxation. In spite of ever-increasing federal tax revenues, annual federal deficits have become the rule and they have become increasingly larger. Figures cited by Senator Hollings in his Newsletter a few months ago showed a cumulative federal deficit for the decade ending in 1960 at approximately 15 billion dollars. For the decade ending in 1970, it was more than three times that amount; and for the decade just ended in 1980, the cumulative federal deficit is well over three hundred billion dollars — seven times that of the preceding decade and twenty times that of the decade ending in 1960.

Professional people and upper middle income

citizens have long been aware of the extent to which their tax dollars have subsidized the irresponsible spending of liberal-minded Legislators and administrators. The wage earning citizen heretofore has not thought of himself as being much of a financial contributor to government spending programs, even though he was, because his taxes have been withheld and he has considered his "take home pay" as his income. Just a few years ago, an average wage earner with an income of $9,000 on which approximately $250.00 state and $1,000 federal tax was withheld, still had good dollar buying power, some savings, and a sense of security. Look what double digit inflation has done. The cost of everything has doubled. His earnings to keep pace have doubled and he now makes $18,000, but his taxes have more than tripled, with $1,000 going to the state and $3,500 going to the federal collectors. His remaining dollars have continually lost value and he now withdraws savings just to keep up. On April 15th, he realized that he had enabled his government to buy a new car and he couldn't afford one for himself. The graduated income tax has become a reality for him and, to borrow a line from Rogers and Hemmerstein's musical, "The King and I," he has begun to feel that his government might "protect him out of everything he owns."

As much as we have complained about inflation and the erosion of our purchasing power, the rapidly accelerating double digit inflation of the last two years just might be the best thing that could ever have happened for America. It has awakened the tax-paying voter who has rejected the increasingly liberal course of government. What can be accomplished by the new administration remains to be seen. As complicated as things are in the world today, expectations should be kept reasonable and realistic. Nevertheless, there is before us the opportunity for a change in direction.

— EMM

MEDICINE IN MARLBORO COUNTY

We often equate the history of medicine in South Carolina with the four volumes published by the late Dr. Joseph Ioor Waring. Dr. Waring, however, regarded his work primarily as scaffolding for others. He would have taken great pleasure at the recent arrival of a project which he had encouraged — a history of medicine in Marlboro County.[1]

The author, Suzanne C. Linder, provides us with a story of medicine in Marlboro County from the first settlement by Welsh Baptists to the present time. Mrs. Linder, wife of a Bennettsville surgeon, combines meticulous research into the details of medicine in her county with a broad understanding of trends in American medical history. Her book is readable without sacrificing detail; it is well-referenced without being pedantic. From the bibliography, one appreciates the extensive reviews of original sources such as old newspapers and original manuscripts which she undertook. Mrs. Linder sets a high standard for future county medical histories in our state.

— CSB

REFERENCE

1. Linder, Suzanne C: *Medicine in Marlboro County 1736 to 1980.* Sponsored by The Marlboro County Historial Society and The Marlboro County Medical Society. Baltimore: Gateway Press, Inc., 1980.

THE HOSPITAL ASSOCIATION SURVEY

The contemporary answer to Robert Burns' entreaty for some power to "see oursels as ithers see us" [sic] is, quite clearly, the public opinion survey. Ellen Burch summarizes, in this issue, findings of a public opinion survey of South Carolinian's perceptions of hospital services. Even though this survey was conducted prior to the recent elections, the trend is impressive. South Carolinians believe that "government involvement is costly and government involvement should be reduced."

— CSB

ON THE DDx OF B & B

Dr. William Cantey, in this issue of *The Journal*, presents a compendium of medical abbreviations which he has encountered as the Medical Director of the South Carolina Medical Care Foundation. He qualifies his compendium as being limited to those which he could decipher. His observation that the different towns and cities of South Carolina possess different abbreviations is interesting, but not surprising. Dr. Cantey's restraint — he makes no judgment about these abbreviations, which have surely caused his office no inconsiderable frustration — is, to say the least, admirable.

Most of us have mixed feelings about abbreviations. They save time, but make reading the records of *others* the equivalent of interpreting Egyptian hieroglyphics. Hospitals publish, from time to time, lists of "acceptable" abbreviations but these lists seem to go ignored. Abbreviations flourish especially among physicians-in-training. Among these younger physicians, I must frequently show my ignorance ("What's PUD?" "What's CT?"). Their answers clearly indicate that "anything goes." Trouble crops up when an abbreviation has more than one acceptable interpretation.

The DDx (Differential Diagnosis, to expand Dr. Cantey's list) of *B* & *B* includes not only "*b*owell & *b*ladder" (listed in his article) but also "*b*ismuth and *b*ourbon" — a popular remedy for decubitus ulcers which might apply to the same patient. A bartender might sympathize with our problem ("*B*enedictine and *b*randy?" "*B*ourbon and *b*ranch?"). Surveying Dr. Cantey's list, I came upon numerous abbreviations which seemed to invite confusion.

Occasionally, abbreviations help us make constructive criticisms. My favorite applies to the stroke patient. Whenever I hear a young physician say: "There's nothing that can be done — it's just another CVA," I ask him the meaning of his abbreviation. The customary answer is "*c*erebro*v*ascular *a*ccident," but the answer is wrong — the correct interpretation is "*C*areless *V*ascular *A*ssessment." Similarly, an editorialist recently commented on the association of an unusual infection with the use of the intrauterine device by pointing out that "IUD" might also stand for "*I*nfection *U*nder *D*iagnosed."[1]

"He left *AMA*." Does that mean "against medical advice?" Or that he is returning from the annual convention of the *A*merican *M*edical *A*ssociation?

— CSB

REFERENCE

1. Majmundar B: Actinomycosis and the IUD: *I*nfection *U*nder *D*iagnosed. (editorial). Southern Med J 73: 835-836, 1980.

LETTERS TO THE EDITOR

To the Editor:

In Jacobs and Aycock's article "The Economics of National Health Insurance" published in your July 1980 issue, it is stated that the employment of nurse practitioners lowers the quality of patient care. I am astounded by that statement which also states that certain physician categories lower quality of care. It would seem that "quality" and "standard of care" should be defined before the authors make such broad generalizations.

There are several national projects which are conducting scientific research on the quality and quantity of joint practices of nurse practitioners and their physician preceptors. All preliminary reports and a search of the literature provide factual information contrary to the statements of the authors.

Patients and physicians state that utilization of a nurse practitioner enhances patient satisfaction and quality of care. Another important consideration is that nurse practitioners are often able to offer services in outlying rural areas or ghettos where services have not been available at all. Therefore, the option to the patient is either no access to medical care or access to the physician through an available service — that of the nurse practitioner.

It is unfortunate that the seeds of negativism such as lower quality, federal control, or economic threat have to surround the nurse practitioner. It is an area where the physician and nurse can develop an improved delivery system through joint efforts. The goals should be available and improved health care at a reasonable cost for the majority.

RUTH Q. SEIGLER, R.N.
Executive Director
State Board of Nursing for South Carolina
Suite 102, 1777 St. Julian Place
Columbia, S. C. 29204

Mrs. Seigler's letter was referred to the authors, whose response is as follows:

To the Editor:

Regarding Mrs. Seigler's comment on the paper which Dr. Aycock and I wrote on national health insurance, here is our reply:

Mrs. Seigler very rightly takes us to task for not being more careful in defining the variable 'quality' in our analysis. As a result of this oversight implications might be drawn which should not be regarding the 'quality' of care of nursing services.

Quality is a many dimensional concept, and can indeed mean many things to many people. The interpretation which we should (belatedly) like to give this term relates to the adequacy of training regarding the performance of specific tasks. In the case of some tasks — major surgery, for instance — our statement would seem to be a reasonable one. But as Mrs. Seigler points out, there are exceptions to this statement. The increased use of non-physician practitioners can turn out to be a low cost but completely acceptable (quality wise) way to extend the availability of care. Indeed, such a use of resources may even mean that individuals who otherwise would go without could now gain access to care.

Across the board, however, 'quality' — in whatever way it is defined — eventually will deteriorate if we continually skimp on medical care while at the same time mandate that more care be delivered. Our point, then, is that there are limits to what we can get out of a limited supply of money without straining the medical care delivery system.

PHILIP JACOBS
Health Economist
Hospital Cost and Utilization Project
Department of Health and Human Services
Public Health Service
Office of Health Research, Statistics, and Technology
Hyattsville, Maryland 20782

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Anxiety: the therapeutic dilemma

National authorities offer views and insights Are minor tranquilizers overused? Is anxiety overdiagnosed? Do antianxiety drugs create other clinical problems? What are the alternatives?

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Differential Diagnosis of Anxiety	Robert E. Rakel, MD, Professor and Head, Department of Family Practice, The University of Iowa College of Medicine
The Problem of Drug Dependence	David H. Mielke, MD, Associate Professor of Psychiatry, Tulane University School of Medicine
Pharmacology and Pharmacokinetics of the Minor Tranquilizers	Leo E. Hollister, MD, Professor of Medicine, Psychiatry and Pharmacology, Veterans Administration Medical Center and Stanford University School of Medicine
Benzodiazepine Receptors	Solomon H. Snyder, MD, Chairman & Professor, Department of Neuroscience, Distinguished Service Professor of Neuroscience, Psychiatry and Pharmacology, The Johns Hopkins University School of Medicine
Management Approaches to the Patient With Anxiety	Julius Michaelson, MD, Past President, American Academy of Family Physicians
Tranquilizers: Guidelines for Appropriate Use	Robert E. Rakel, MD, Professor and Head, Department of Family Practice, The University of Iowa College of Medicine
Non-Drug Treatment Alternatives	Sidney L. Werkman, MD, Professor of Psychiatry, University of Colorado School of Medicine
	Other members of the symposium faculty, from the Tulane University School of Medicine, include John W. Goethe, MD and Daniel K. Winstead, MD.

Eight credit hours in Category 1 for PRA/AMA, Prescribed hours by AAFP, Category 2-D of AOA and/or Formal Learning cognates of ACOG will be awarded.

Anxiety: The Therapeutic Dilemma is being produced in collaboration with Tulane University School of Medicine, Department of Psychiatry and Neurology, by M.E.D. Communications, under an educational grant from Abbott Laboratories.

A

Office of Continuing Education, Tulane Medical Center, 1430 Tulane Avenue, New Orleans, Louisiana 70112.

Please send full information about the symposium Anxiety: The Therapeutic Dilemma.

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President's Page

HAPPY NEW YEAR?

I am sure that most of you, like myself, make New Year's Resolutions. Most of these have to do with stopping bad habits that probably will affect our physical health more than our economic health. It's a great feeling to make these Resolutions. I always feel so clean when I do this. I walk around exuding good health and have to be brought down to earth by someone telling me I still look and act the same. The fall from grace usually occurs on or about Super Bowl Sunday. I am over the D.T.'s from nicotine and alcohol withdrawal by then, but nervous as a cat. Oh, well, at least for two weeks I was healthy. I would hope that your Resolutions last longer than my personal ones do. There are Resolutions which we all should make and be very sure we keep! These have to do with the health of our profession as a whole.

The first Resolution we should make is to work for cost containment. Most physicians don't realize the importance of this. Big business is looking very hard at cutting costs. Big business has had national meetings of corporations to help plan for this. Hospital budgets have not stayed within voluntary limits this year, so the government is convening a board to study mandatory budget review for hospitals in South Carolina by a body such as the Public Service Commission. Health care is now close to 10 percent of the gross national product and is predicted to rise to 15 percent. This figure is much too high to be tolerated in Washington, even a friendly Washington, or by business. Physicians will come in for considerable pressure, as we order most of the work that contributes to the increased costs.

Let me assure you that I feel as many of you do that the increase of life span and the general increase in good health cannot be measured in dollar amounts. To the patient involved in an illness, only the best of care is demanded by them, and rightly so. To ration such things as coronary bypass surgery is to ration the quality of life. Who would make the choice as to who could and who could not have the surgery?

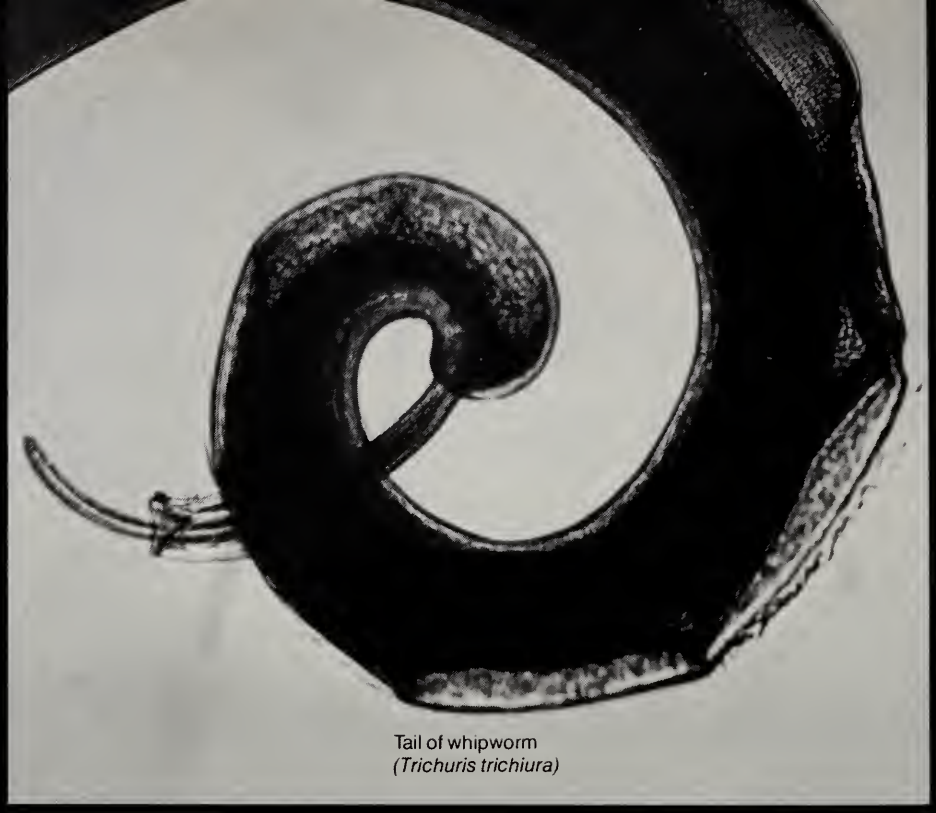
Since physicians order most of the services, there are many things each of us can contribute to cost containment. To do everything possible as an outpatient and prevent the hospitalization of the patient would represent the greatest savings. Ambulatory surgery and full use of lab and x-ray as an out-patient would be a great cost savings. Any small amount each of us could contribute daily would add up to big bucks statewide and nationwide. If each of us would keep the idea of cost containment in the back of our minds and diligently pursue each chance to save a few dollars, our part in cost containment would be a help. The patient, unions, hospitals, pharmacists, drug companies, and insurance companies must all do their part too. *It is appropriate for physicians to lead the way.*

Fees must also be contained and kept in perspective. The golden egg will be shattered from excessive fees and what would get splattered on us now would be a strict fee schedule. Not to pick on any one group, but surgical fees are what are most often mentioned. To be an M.D. does not give one license to "hold up" our patients and third party payers. Let's don't do to ourselves what others would love to do to us.

Have you sent in your membership check and a separate SOCPAC check yet? Your membership is vitally needed! Remember . . .

MEMBERSHIP IS UNITY FOR STRENGTH!

Halsted M. Stone, M.D., *President*



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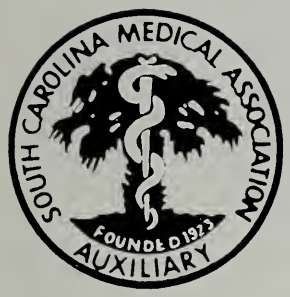

SOUTH CAROLINA MEDICAL ASSOCIATION

AUXILIARY

ORGAN TRANSPLANTATION AND DONATION

With the population rise of the United States, and the ever-increasing demand for better medical care, more doctors are being trained and medical school anatomy courses are having increasing demands for cadavers.

This is a difficult subject for many lay people to discuss — some doctors are even a bit reluctant to bring up the facts about body donation. Consequently, the donation of one's organs after death for transplant, or one's entire body for medical education, is still not something which comes up in widespread conversation.

Medical Auxiliaries around the country are beginning to give many of their volunteer hours to this life-saving and educational subject. By educating the public as to what actually happens when the eyes or kidneys are used for transplant, and by informing the public as to exactly how to go about donating their bodies after death to the medical school of their choice, many more persons are realizing the benefits to their fellow men by such unselfish actions.

The State of South Carolina is just beginning to revamp its theories and practices concerning organ donation and transplantation.

A technically successful living related live donor transplant has a better than 75 percent chance of functioning well for a patient in the long run, and a cadaver kidney about a 50 percent chance. Patients with successful kidney transplants are essentially free of most restrictions and lead a productive life. There is little disagreement that the quality of life in a successful kidney transplant patient is better than that of a successful dialysis patient and that it is also less expensive in the long run.

From October, 1979 to March, 1980, South Carolina procured 16 kidneys and transplanted 13. Georgia, on the other hand, procured 38 and transplanted 34 during that same period of time, while Tennessee procured 88 and transplanted 47.

The necessary machinery to accomplish successful transplantation can be broken down into the following areas:

1. Surgical and hospital facilities and personnel to accomplish the procedure,
2. Preservation facilities,
3. Organ procurement program, and
4. Patient pool.

South Carolina has excellent capabilities in numbers one and two above. However, there is a definite need in this state for an effective statewide organ procurement program.

Upon death, a gift of life to another, by the unselfish donation of an organ or the entire body, is the greatest gift any man or woman can give to another.

Could the South Carolina Medical Auxiliary help in educating our South Carolina population in this delicate, but important area? Give it some thought.

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OF THE SOUTH CAROLINA MEDICAL ASSOCIATION
VOLUME 77 FEBRUARY 1981 NUMBER 2

THE ROLE OF PLATELETS AND ANTIPLATELET DRUGS IN ISCHEMIC HEART DISEASE

EUGENE J. POPE, JR., M.D.*

Platelets have unique qualities and functions which strongly implicate them as having an important role in the pathogenesis of ischemic heart disease. Accordingly, it is important for practitioners to be aware of

a) general platelet physiology
b) research which indirectly relates platelets to coronary ischemia
c) how "antiplatelet" drugs affect platelet function, and most importantly,
d) clinical evidence regarding the efficacy of antiplatelet drugs in modifying the mortality and morbidity of ischemic heart disease.

Platelets are small (2μm diameter) disk shaped cells, produced by megakaryocytes in the bone marrow, which have a 10 day life span in the normal circulatory blood pool where they number 200,000-400,000 per cubic millimeter. Although platelets do not normally adhere to endothelium or to each other, they do adhere to injured endothelium and subsequently group together (aggregate) while simultaneously releasing several active chemical substances. Indeed, this sequence of *ADHESION*, *AGGREGATION*, and *RELEASE REACTION* define the three basic modes of platelet behavior.

Platelet aggregation, a phenomenon in which platelets undergo an isovolumic change into spiny spheres and clump together, may be primary or secondary. Primary aggregation in vitro may be initiated by adenosine diphosphate (ADP), epinephrine, thrombin, and other substances.[13] This aggregation is reversible if caused by small quantities of ADP; however, the addition of larger amounts of ADP causes platelets to release their own endogenous ADP and results in irreversible platelet aggregation known as secondary aggregation. Platelet aggregation is accompanied by the release of not only ADP but also several other important substances including

a) thromboxane A_2, a potent vasoconstrictor postulated to play a role in inducing coronary artery spasm,
b) serotonin,
c) prostaglandins,
d) mitogens, which may conceivably be involved in the pathogenesis of arteriosclerosis.[14]

Considering the above reviewed functions of platelets, it is possible to envision several roles that they might play in ischemic heart disease. Conceivably platelet aggregation (reversible or irreversible) might form flow limiting plugs resulting in coronary ischemia. Likewise, substances released by activated platelets, such as thromboxane A_2, might cause coronary artery spasm, or enhance coronary artery sensitivity to endogenous autonomic stimuli.

Although such possibilities seem quite plausible, the actual demonstration of a direct connection between coronary ischemia and platelet activity has proved to be a formidable task. Investigators, however, have uncovered several in-

* Fellow, Cardiovascular Division, Department of Medicine, Medical University of South Carolina, 171 Ashley Avenue, Charleston, S. C. 29403.

teresting facts which indirectly implicate platelets in ischemic heart disease. First of all, aware that catecholamines can cause platelet aggregation in vitro, researchers have found that by infusing norepinephrine into dogs they can produce intravascular platelet aggregation in the small vessels of the heart.[11] This same effect has been produced through endogenous catecholamine release in rats stressed by ice water,[9] hot water, and small electrical shocks. These findings suggest the possibility that stress induced platelet aggregations, which may be reversible or irreversible, might block an already partially occluded vessel resulting in ischemia induced arrhythmias or a myocardial infarction. The potential reversibility of these aggregations might explain why some patients dying of an infarction may not at autopsy have occlusive platelet thrombi.[10]

Other studies have implicated platelets in ischemic heart disease by demonstrating abnormalities of platelet function in patients with coronary artery disease. Specifically, it has been shown that platelets in such patients are hyperaggregable in vitro. That is to say, a small quantity of ADP sufficient to cause only primary, reversible platelet aggregation in normals, when added to the platelets of most patients with coronary artery disease and angina will result in irreversible secondary aggregation.[15] Coronary patients thus seem to have a significantly lower threshold for secondary platelet aggregation as studied in vitro. Another more recent study has suggested a link between platelet activation and coronary ischemia by demonstrating a transient rise in platelet factor 4 (a substance released by activated platelets) in some patients with angina undergoing exercise that did not occur in most normal exercising patients.[8]

With such strong indirect evidence suggesting a role for platelets in myocardial ischemia, it is not surprising that a great deal of research has been performed attempting to determine the effects of "antiplatelet" drugs on platelet behavior. Of all drugs which modify platelet behavior, probably the most studied has been aspirin. Aspirin inhibits platelet aggregation and release (but not adhesion) by inhibiting the conversion of arachidonic acid to cyclic endoperoxides, and hence decreases the synthesis of prostaglandins and thromboxane A_2 (Fig. 1). The effects of even as little as 300 mgms. of aspirin can be measured for as long as 4 to 7 days, and tolerance has not been observed with even prolonged administration.[14] A study by Frishman et al showed that aspirin completely blocked the irreversible second stage aggregation not only in normals, but also in angina patients who had been demonstrated to have baseline platelet hyperaggregability. However, despite this significant alteration of platelet behavior, there was no demonstrable improvement in exercise tolerance, pain threshold, myocardial oxygen consumption, or arrhythmias in patients studied after pretreatment with aspirin.[6] In animals, however, Haft and Fani demonstrated that pretreatment with aspirin did reduce the platelet aggregation and subsequent myocardial necrosis caused by stress or epinephrine infusion.[9]

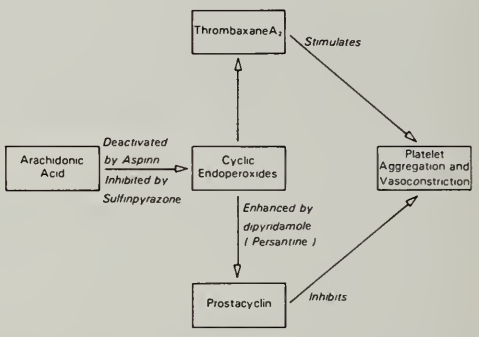

Figure 1: Postulated mechanisms of antiplatelet activity by Aspirin, Sulfinpyrazone, and dipyridamole.

Propranolol, although not commonly thought of as an "antiplatelet" drug, has been demonstrated to alter platelet behavior in angina patients. Although in usual therapeutic doses propranolol does not alter platelet aggregability in normal subjects, studies have shown that the increased platelet aggregability found in some patients with angina was normalized with 80 mgms. of propranolol per day. Significantly, in one study patients taking propranolol also demonstrated improved exercise tolerance with a decrease in the heart rate-blood pressure product which might to some degree be attributed to altered platelet activity, although admittedly many other factors are involved.[7]

Sulfinpyrazone, like aspirin, inhibits second stage aggregation, release reaction, and prostaglandin synthesis, but unlike aspirin does not prolong bleeding time and does normalize platelet survival in disease processes where it is usually shortened.[3] In an interesting study of

experimentally infarcted dogs, sulfinpyrazone, like aspirin was found to increase myocardial collateral blood flow, perhaps by its property of completely abolishing second phase aggregation.[4] In another study, Moschos showed that unlike aspirin, sulfinpyrazone would reduce the extent of myocardial ischemic injury after experimental occlusion of a coronary artery in dogs.

Despite strong circumstantial evidence implicating platelets in ischemic heart disease, the ability of "antiplatelet" drugs to modify abnormal platelet behavior in angina patients, and the apparent protective effect of these drugs in some experimental animal studies, the most important question remains unanswered: Does the administration of antiplatelet drugs in any way alter the overall morbidity or mortality of ischemic heart disease?

Although there were a few small retrospective studies and anecdotal experiences published in the 1950s and 1960s suggesting an apparent decrease in the number of myocardial infarctions in patients who happened to be aspirin users, it was not until 1974 that The Boston Collaborative Drug Surveillance Group published the most comprehensive of these studies. A review of 776 patients with an acute myocardial infarction and 13,898 patients with other discharge diagnoses showed a strong negative association between prehospitalization regular aspirin use and nonfatal myocardial infarctions. In the same year a large prospective double blind study was published by Elwood et al in which 1,239 men who had a recent myocardial infarction were randomized into a placebo group and a group taking 300 mgms. aspirin a day. This paper showed a definite trend in favor of the aspirin group with a 25% reduction in mortality after one year of aspirin intake; however, the results were statistically inconclusive.[5] The Coronary Drug Project Aspirin Study, likewise a prospective, randomized, double blind study used 972 mg of aspirin per day, and found a 30% reduction in mortality, but was also unable to prove statistical significance.[2]

The most recent, and to date the largest prospective study, was published in February, 1980 by the Aspirin Myocardial Infarction Study Research Group (AMIS) in which 4,524 patients were randomized to placebo or 1 gm of aspirin per day beginning 8 weeks to 5 years after a myocardial infarction. This study demonstrated no benefit from aspirin in decreasing post infarction morbidity or mortality, but the aspirin group did have a higher incidence of gastrointestinal side effects.[1] An interesting point raised in criticism of this study was that the dose of aspirin given was large enough to inhibit not only thromboxane A_2 but also prostacyclin, an inhibitor of platelet aggregation and vasodilator produced in blood vessel walls. Therefore, it was postulated that perhaps a smaller dose of aspirin (i.e. 160 mg/day), would exert antiplatelet activity but not inhibit prostacyclin, and therefore might be beneficial.

The Persantine-Aspirin Reinfarction Study (PARIS), a yet unpublished study presented at the 1980 annual meeting of the American College of Cardiology, evaluated the combined effect of aspirin and dipyridamole (Persantine) as opposed to aspirin alone or placebo in preventing new infarctions. A total of 2,026 patients were randomized in eight weeks to five years post myocardial infarction into three groups: one taking aspirin (972 mg) and dipyridamole (225 mg) daily; a second group taking aspirin (972 mg) daily, and a third receiving a placebo. This study was able to demonstrate a statistically significant reduction in coronary incidence in the aspirin-dipyridamole group over the placebo group after four to 24 months of treatment. Furthermore, combination therapy seemed to be more effective than aspirin alone, although the difference between these groups did not achieve statistical significance. The PARIS study also offered evidence that aspirin and dipyridamole seem to have their greatest protective effect when given the first six months post infarction, with little benefit seen in patients entering the study more than 6 months after their infarction.

The Anturane Reinfarction Trial Research Group recently published data from a study of 1,558 patients randomized 25 to 35 days after an acute myocardial infarction into a placebo group and study group taking 200 mg of sulfinpyrazone (Anturane) q.i.d. The sulfinpyrazone group was noted to have a significant reduction in sudden death during the second through the seventh months after infarction as compared to the placebo group.[12] Unfortunately, however, there have been questions raised regarding the exclusion of certain patients from the study and, as of now, the FDA has not approved sulfinpyrazone as an antiplatelet drug.

In conclusion, there is indeed strong experimental evidence to suggest that platelets may play a role in ischemic heart disease and that "antiplatelet drugs" clearly modify platelet behavior in vitro and in vivo. However, at present there are no published data which demonstrate a statistically significant reduction in post infarction cardiac mortality or morbidity with aspirin use, (although most studies show a definite trend in favor of the aspirin groups), and the study suggesting a protective effect of sulfinpyrazone is currently the subject of controversy.

It seems clear that further research is needed in several areas relating to the use of "antiplatelet drugs" in ischemic heart disease. First of all, with the strong suggestion that such drugs seem to exert their protective benefit, if any, during the early months post infarction, it would be of interest to see if beginning their administration days, rather than weeks or months post infarction, would result in a statistically significant benefit. Additionally, with the recent findings that the dose of aspirin given in most studies blocks a potentially helpful substance, prostacyclin, research is needed to evaluate the effects of lower aspirin doses and various combinations of "antiplatelet drugs." Finally, given the broad spectrum of ischemic heart disease, an effort must be directed at defining subgroup populations in whom platelet dysfunction may play a greater or lesser role and accordingly in whom antiplatelet therapy may be of life saving value or not indicated. □

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SCALP AVULSION*

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Total scalp avulsion is a devastating injury. It is a potentially lethal injury, the care of which involves lengthy hospitalization, severe disfigurement and significant psychological effects on the patient.

HISTORY

The Scythians used scalping in battle as early as 1500 B.C. according to the writings of Herodotus. Apocryphal quotations from II Macabees document the practice of scalping as a method of torture approximately 200 years B.C.

In those days, surgeons could offer little except control of hemorrhage and local wound care in hopes that reepithelization would occur. Frequently, the prolonged exposure of the skull resulted in sequestration, osteomyelitis, sepsis and death. The treatment of the denuded skull was discussed by Hippocrates, Galen, and Celsus in ancient days. They recommended either rasping or perforating the dry, blackened sequestrum with a file or an awl. These writers deferred such action until delineation between the sequestrum and normal bone had occurred. Augustin Belloste, a French surgeon, wrote in 1696 of the necessity for early perforation of a bare cranium to allow granulations to occur. When treated in this manner, these wounds would take about two weeks to granulate and up to two years to epithelize.

American Indians and other primitive cultures practiced scalping long before the arrival of Columbus. Each tribe had its own individual technique. Extremes ranged from the removal of a lock of hair to a complete scalping. The Sioux nation practiced the excision of both auricles in addition to the scalp.

The Indian practice decreased rapidly in the latter half of the 19th Century. Industrial accidents soon became the most common cause of scalping injuries. The first industrial injury case was reported in the London Medical Gazette in 1839 by Downs. A seventeen-year-old girl was scalped and subsequently treated with a variety of local ointments, drugs and oils, but she unfortunately died seven months after her injury from sepsis. With the advent of the industrial revolution, scalping became a major industrial hazard for women, especially those with long hair.[1]

ANATOMY AND MECHANISM OF INJURY

To better understand the problems associated with scalp avulsion and the rationale for treatment, it is necessary to examine the anatomy of the scalp and the mechanism of injury. The scalp has five layers consisting of the skin, subcutaneous tissue, the aponeurosis, loose areola tissue and the pericranium. The loosely woven areola tissue allows the layers above it to glide over the pericranium below it. Traumatic loss of the scalp occurs through this loose areola tissue layer. As long as the areola tissue is kept moist, it will usually survive to support a split thickness skin graft. If allowed to dry, however, the pericranium is exposed and will not support a split thickness graft.

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When traction is applied to scalp hair, the scalp tents and then tears away rapidly, usually beginning either at the supraorbital ridge or the nuchal line, depending upon the direction of the pull. It has been shown that a vertical pull exactly in the long axis of the body will result only in the hair being torn from the scalp. An oblique force is required to produce scalping, thus giving rise to the theory that the scalp tears at either of the bony ridges. The extent of the avulsion depends on the location and the amount of hair caught and the direction of the force exerted.

Women are more often involved in industrial scalping accidents due to their long hair. After the injury, the scalp can usually be salvaged from inside the machinery. When the scalp has not been traumatized severely, microsurgical techniques can be applied for the replantation of the entire scalp. However, when the scalp is badly contused and microvascular anastomosis cannot be used, the scalp itself can be used as donor for full or split thickness skin grafts.

With this background, the following case report is presented to demonstrate the severity of a scalping injury as it occurs in modern industry and one method of management.

CASE REPORT

S.J., a 28-year old Caucasian female, was performing her job in a local textile company on the evening of admission. She crawled under a machine to perform repairs. Her hair, which was described as being long enough to reach to the mid-portion of her back, immediately became entangled in the machinery. Resultant forces caused avulsion of the entire scalp from the nuchal line to, and including, both eyelids. (Figure 1) The upper portion of the helix of the right ear was also torn. The entire hair-bearing scalp was avulsed in one piece and was subsequently retrieved from the weaving machine in which it had been fairly severely contused and traumatized. The scalp was brought with the patient to the Emergency Room at which time, the patient was evaluated and prepared for surgery.

On physical examination, she seemed to be in remarkably good condition with minimal bleeding from the scalp. Most of the areolar layer of the scalp was preserved. There were no associated facial or skull fractures. The head was dressed with moist saline dressings and the patient was taken immediately to the operating room. The scalp was contused to such an extent that microvascular replantation was not a viable alternative, and it was therefore used as a source of graft material.

Using two teams, the wound was debrided and the avulsed scalp was cleaned. The forehead portion of the avulsed tissue was in relatively good condition and this was amputated from the remainder of the scalp, defatted and used as a full thickness graft to the forehead. This included both eyebrows and upper eyelids. (Figure 2) The remainder of the scalp was used as a donor for a split thickness epithelial graft which was taken with the Brown dermatone, meshed and grafted over the exposed loose areola tissue. Subsequently, a 4 x 4 cm. grafted area failed to survive and it was necessary to drill numerous holes in the outer table of the skull to prepare an adequate granulating base for subsequent split thickness grafts. Several other small areas of the head required repeat mesh grafts. Over the course of this patient's forty-seven day hospitalization, she underwent the initial major procedure with three subsequent small grafting procedures. During the latter third of her hospitalization, the patient was able to wear a wig. This markedly improved her self-image and psychological well-being. (Figures 3 & 4)

This patient has now completely healed and has made a good physical and psychological recovery. She returned to work five months after her injury and now performs the same job that she did prior to the accident.

DISCUSSION

Over the last several years, numerous publications have documented the alternative of replantation of an avulsed scalp by microvascular anastomoses. The first reported case was carried out in 1974 in Australia and involved two arterial and five venous anastomoses.[2] We are aware of at least four subsequent reported cases of successful replantation of avulsed scalp by microvascular anastomoses.[3, 4, 5] These advances have been made possible not only by the operating microscope, fine instruments and suture material, but also by the marked advancement in knowledge and technical skill of a number of well trained surgeons. Although our case was not handled in this manner, the advantages of successful scalp replantation are quite significant, not only in terms of providing normal hair-bearing scalp but

FIGURE 1. Anterior view of scalp avulsion at time of surgery. Note line of tear across both eyelids and bridge of nose.

FIGURE 2. Postoperative view of full thickness forehead graft and meshed scalp graft. The helix of the right ear has been repaired. The avulsed scalp was used as the donor site for the meshed split thickness graft.

FIGURE 3. Five months postoperative scalp avulsion. Eyebrows have regrown through the full thickness graft.

FIGURE 4. Five months postoperative scalp avulsion with wig. This patient now works for the same textile company, and performs the same job she did prior to the accident.

also in terms of the economic and psychological benefits. Previous non-replanted cases have taken as long as two years to completely heal and in fact, an older series of non-replanted cases involved hospital stays of 76-118 days.[5] Also, the need for secondary reconstructive procedures after a successful replantation is minimal.

When the amputated scalp, however, is mangled or severely traumatized and is not suitable for replantation,[6] or when a microvascular team is not available, the amputated scalp may be used as a donor tissue for full or split thickness grafts as was done in our case. We have not seen previously reported, the use of the avulsed scalp as donor tissue for split thickness skin grafts. The techniques involved are generally within the expertise of the surgeons in a community hospital and cases such as this, can certainly be successfully managed in a community setting. However, if replantation of the avulsed scalp is considered a possibility, the amputated scalp should be loosely wrapped in saline gauze and placed in a plastic bag on ice in preparation for referral to a microvascular center. The denuded skull should be kept moist and covered with a dressing. Hair should not be clipped or shaved from the specimen, since hair adheres tenaciously to the raw surface of the scalp.

SUMMARY

One case of industrial scalp avulsion treated by full and split thickness skin grafting has been presented. The avulsed scalp was used as the donor site for the full and split thickness grafts. A brief historical review, and the alternative management of scalp avulsion by microvascular anastomotic techniques is discussed. □

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CONTROL OF HEMOPTYSIS BY INTERRUPTION OF THE BRONCHIAL CIRCULATION*

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L. D. VOEGELE, M.D.
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Hemoptysis may be life-threatening, especially in the debilitated patient with chronic lung disease who is a poor candidate for pulmonary resection. Mortality under these circumstances has been reported as high as eighty percent.[1]

The following report considers two cases of hemoptysis complicating bronchopleural fistula where control of hemorrhage was achieved by embolization of the involved arteries.

CASE REPORT #1:

A 72-year-old white male retired electrician with chronic obstructive pulmonary disease developed an abscess of the superior segment of the left lower lobe. He was treated with antibiotics, multiple bronchoscopies, and tube thoracostomy.

After the initial febrile course the patient remained stable over the next 2½ years with chronic chest tube drainage and a cough productive of a small amount of purulent sputum. Then he developed massive hemoptysis associated with bloody, purulent discharge from the thoracotomy tube. Because of depressed pulmonary function, operation was considered inadvisable. He was taken to the cardiac catheterization laboratory where he underwent bronchial arteriography. Arteriograms showed increased vascularity in the area of the cavity. Control of hemorrhage was achieved by embolizing small particles of Gelfoam into the involved bronchial artery. Following embolization there was immediate cessation of bleeding and a reduction in mucopurulent sputum production. Sputum cultures grew out Mycobacterium avium, Proteus mirabilis and Escherichia coli. A recurrence of hemoptysis to a much lesser degree occurred one week later. A repeat arteriogram showed a partial washout of Gelfoam and a repeat embolization this time had lasting effects. The patient went home a few days later and stopped his antituberculous as well as other antibiotic coverage because of a sense of well being. The chest tube was removed six months later at which time the patient was noted to be doing well without purulent sputum production and with minimal drainage from the chest tube tract.

Recurrence of hemoptysis occurred three years later. Arteriograms at this time showed development of a collateral circulation about the lung abscess fed by a bronchial artery originating from the aorta at a site more distal than the one embolized three years previously. Embolization again with Gelfoam controlled the hemorrhage, but this time the patient developed weakness of the right lower extremity. On examination of the arteriograms before the embolization and again after the embolization, there were no communications with the spinal cord detected. The patient has recovered to the point of getting about well with a walker. He has been free of hemoptysis for eight months.

CASE REPORT #2:

A 63-year-old white male clerk underwent right upper lobectomy and chest wall resection for bronchogenic carcinoma. This was followed by X-ray therapy. Bronchopleural fistula was noted fourteen months after operation. A month after this the patient developed massive hemoptysis. The site of hemorrhage and air leak was located by flexible bronscoscopy at the right upper lobe bronchial stump. Arteriograms did not show a bronchial artery on the right, but injection of a right intercostal artery showed irregular collateral vessels to a point of hemorrhage in the area of the right upper lobe bronchi-

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FIGURE 1: Bronchogram of Case #1 showing cavity in left mid-lung field.

FIGURE 2: Bronchial arteriogram of Case #1 showing dye in bronchial artery and "blush" in the area of abscess.

al stump. Embolization with Gelfoam resulted in immediate cessation of hemorrhage.

The patient returned to work and did well until recurrent tumor became evident eight months later. The patient died one year after the embolization, without any further episodes of hemoptysis.

DISCUSSION

Control of hemoptysis by interruption of the bronchial circulation and avoidance of pulmonary resection was first accomplished by surgeons in Britain and on the continent. Tubbs, in 1963, operated upon a patient with hemoptysis complicating chronic idiopathic pulmonary hilar fibrosis. Ligation of bronchial arteries without pulmonary resection provided a long-lasting control of hemoptysis. The patient was free of hemoptysis on a six-year followup visit.[2] In France a 17-year-old white male student had advanced cavitary tuberculosis and massive hemoptysis. Thoracotomy was performed with opening of the cavity and ligation of a large bronchial artery from which bleeding was visualized. The cavity was then closed and the patient had a benign postoperative course with a chest X-ray that appeared essentially normal one year following thoracotomy.[3]

In Lille, a 39-year-old coal miner with silicosis and massive hemoptysis underwent bronchial arteriograms indicating hyperplastic bronchial arteries in both lungs. With the aid of preoperative arteriograms, bronchial arteries were ligated bilaterally. Hemoptysis ceased. On the twentieth postoperative day, the patient died of complications of tracheostomy. An autopsy showed "softening" of inflammatory nodules in the lungs but no pulmonary necrosis.[4] Following these isolated case reports, embolization by radiologists became the customary method of controlling hemoptysis without resorting to pulmonary resection.

Complications of bronchial artery embolization have included paraplegia, severe respiratory infection, esophagobronchial fistula, and ischemic colitis.[5] Paraplegia has resulted from the presence of a spinal artery branching from the bronchial artery undergoing embolization. The risk of spinal cord involvement is greater on the

right side than the left, where there is often a common trunk at the fifth intercostal level feeding both bronchial and spinal circulations. The first case of this report is unique in that no major branch to the spinal cord was seen with adequate arteriograms. While complications have been severe they are not numerous when the embolization is performed with adequate precautions. and the alternatives in managing many of these acutely ill patients are few. Remy has reported one hundred four cases of bronchial artery embolization with a low complication rate.[6]

The indication for embolization has been massive or recurrent hemoptysis with tuberculosis, bronchiectasis, aspergilloma and pneumoconiosis being the underlying disease in most instances. The procedure is palliative. Long term success depends upon control of the inflammatory process which may lead to collateral development and recurrence of hemoptysis.

With the risk of paraplegia being significant under certain anatomical situations it may be appropriate to recall the history of bronchial artery interruption and control hemoptysis surgically when spinal cord collateral vessels threaten the result of an embolization procedure.

It is interesting to note that several cases of tuberculosis in the literature as well as our own case showed diminution of mucopurulent sputum production and apparent improvement in their disease in the weeks and months following bronchial artery interruption. Whether interruption of a hyperplastic bronchial circulation alters the milieu for development of certain infectious diseases has not been answered. □

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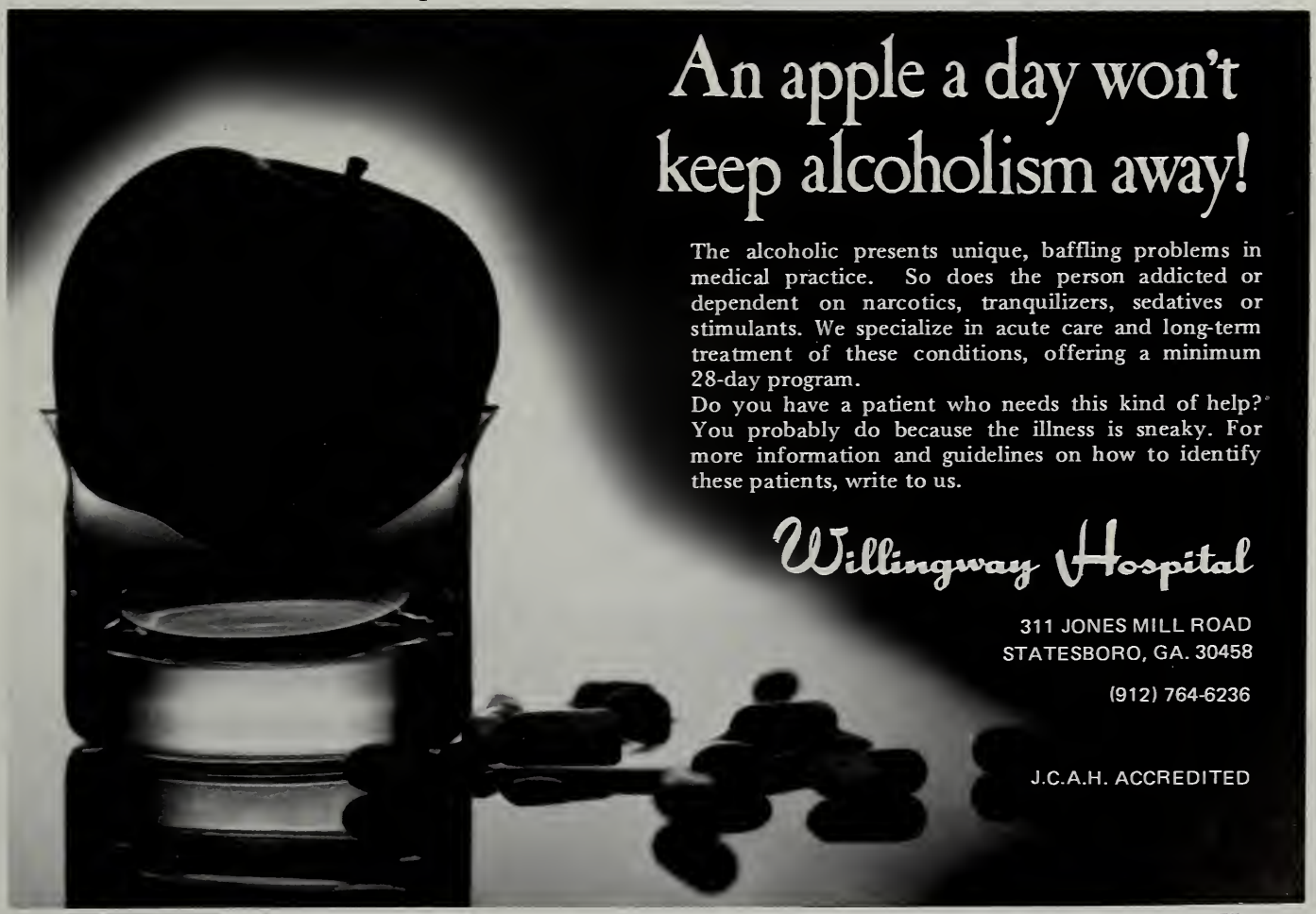
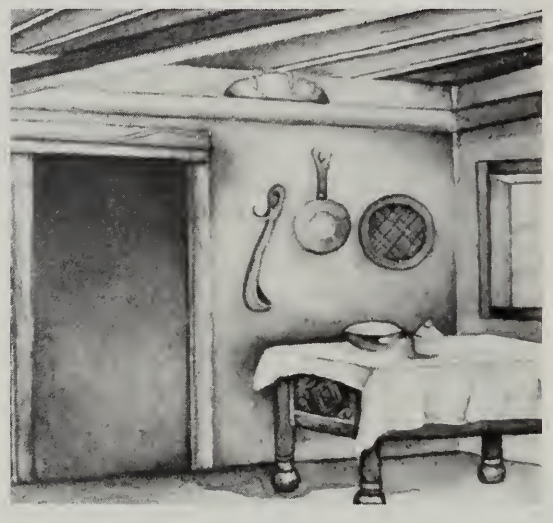


Yesterday's Folk Remedy:

A rye loaf in the rafters.



Early in this century in Central Europe, almost every farm family kept a loaf of moldy rye bread on one of the kitchen beams. When any family member was cut or bruised, it was an old custom to cut a thin slice from the outside of the loaf, mix it into a paste with water, and apply it to the wound with a bandage. It was believed that no infection would then result from the cut.[1]

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See brief summary of prescribing information on an adjoining page.

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†In serious, life-threatening infections, oral preparations of the penicillinase-resistant penicillins should not be relied on for initial therapy.

‡Not all isolates may have been tested using both discs.

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INDICATIONS:

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

IMPORTANT NOTE

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

CONTRAINDICATIONS:

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

WARNING:

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

Safety for use in pregnancy has not been established.

PRECAUTIONS:

The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

ADVERSE REACTIONS:

Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

USUAL DOSAGE:

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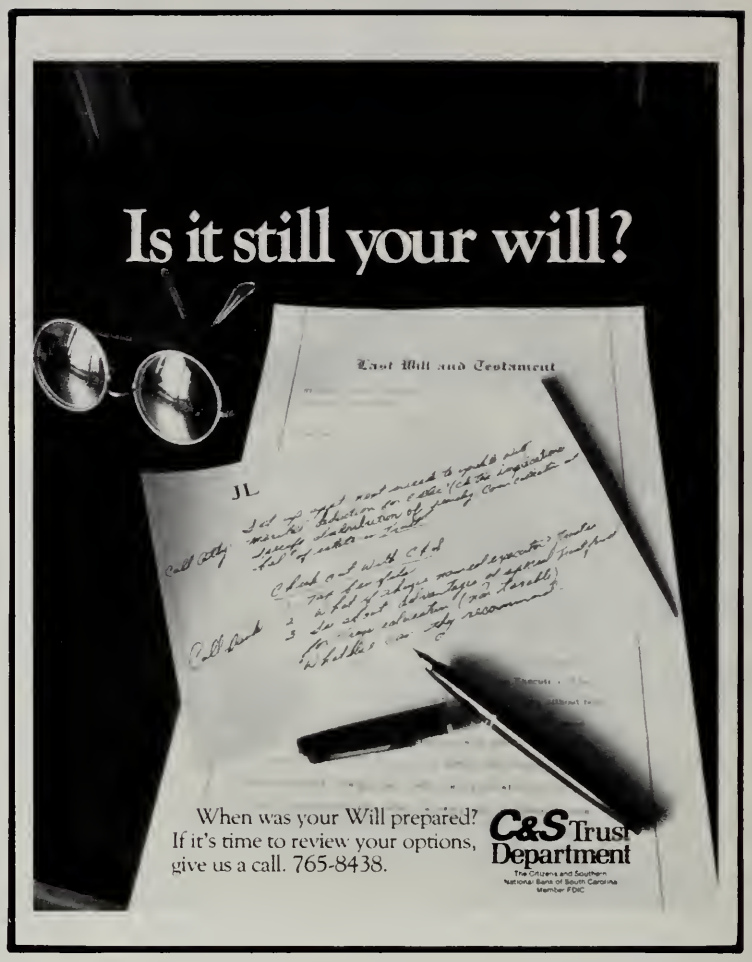

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ON THE CULTURAL EDUCATION OF PHYSICIANS

WILLIAM H. HUNTER, M.D.*
WILLIAM MAKER, Ph.D.**

Early in this century following the Flexner Report the American Medical Association began to influence medical education markedly. This influence has led to the United States becoming the medical center of the world. The improvement in medical education concomitant with scientific advances has made available to U. S. citizens the best available medical care the world has ever known. Consequently, the members of this country's medical profession are among the most respected and highly paid people in the country. Accordingly it is only natural that many among the best and brightest of our young people should seek to enter the field of medicine. In the past 35 years the number of able students seeking to become physicians has presented an increasing problem for admission committees to medical schools. These committees have found themselves faced with several qualified applicants for each available position. Medical schools, wishing to accept students who were most apt to complete their studies, tend to choose students who had the highest grade point ratios and tested highest on the Medical College Aptitude Test. An undergraduate science major with high grades in the physical sciences is a primary requirement for the vast majority. So selection to medical school has become largely a numbers game, attenuated only by one or two hour-long interviews. In fact some students are picked for admission without an interview when their numbers on GPR and MCAT are high enough.

These facts are well known by undergraduate students, and therefore those accepted to medical school will have acted accordingly with their undergraduate education. That is, they would have concentrated on the physical sciences. Once in medical school they are faced with what has become the best medical education ever. So to a very large extent what we have in our graduation medical classes is a large fraction of our outstanding young people, well trained in medicine, and with probably a very poorly-rounded formal education.

Although a sound background in science is necessary for medical school education, practicing physicians are certainly aware of the extent to which the successful practice of healing and caring for the sick demands more than what is learned in laboratories, science courses and medical lectures. The expression "the practice of medicine" is certainly appropriate, for medicine is definitely not a science in the strict sense of the term and is undeniably much more than the simple application of scientific knowledge which is acquired in medical school. A good physician is no more merely engaged in applying theoretical and technical knowledge than a good musician is merely engaged in applying theoretical and technical principles of music. Though aided by science and technology, the physician is neither a scientist nor a technologist, nor a human engineer. Rather, the physician is the practitioner of an ancient art which has been refined and enhanced over the centuries through science and technology. The physician is a person possessed with highly refined scientific medical knowlege and engaged on a day-to-day basis in making decisions that cannot be reduced to universally applicable rule-governed formulas. Healing — no matter how much it is enhanced by scientific and technological advancements and discoveries — is nonetheless, and always has been, a fundamentally human and humanistic activity.

The relation of physician to patient which is the heart of the practice of medicine is a special type of human interaction, one in which the burden of responsibility for sensitivity, openness,

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concern and confidence — the keys to all human interaction — falls largely on the physician. While medical education and training can and must focus to the greatest extent on providing the would-be physician with the knowledge needed to treat and heal — to act on — the natural organism that is the patient's body, the skilled physician must be someone who is capable of being sensitive to — and reacting with — the human person who is under his care. Healing is a wholistic endeavor.

Clearly, the special type of human interaction that constitutes the practice of medicine — taking place as it so often does when one of the participants is undergoing great emotional stress — requires skills which go beyond scientific training and which, to the extent to which they can be taught at all, cannot be taught in the same manner. It must be stressed that the skill of dealing effectively with people is not a technique that can be taught and learned in the abstract and then applied. It lies at the heart of, but is much more than, having a good bedside manner. And it is certainly not something that can be gleaned simply from studying psychology textbooks (where once again, as in medical scientific texts, the focus is on the human being as the object of scientific inquiry).

The sense of respect for oneself *and others* — the essential ingredients for human interaction — are things that, if they cannot be directly taught can nonetheless be awakened, cultivated and enhanced through education. Specifically, this sensitivity can be increased in and through that aspect of education that places its stress on an exploration of the question of what it has meant, does mean and may yet in the future mean to be a human being: in and through the liberal arts, the study of history, art, literature, religion and philosophy.

Philosophy, the product of the same ancient Greek civilization that gave birth to western science and medicine, is an especially vital aspect of humanistic education. This is the case because philosophy, unlike any other specialized discipline, concerns itself with the nature of thinking as such: with the many competing attitudes of mind that have shaped and guided western civilization in the past, are molding it today and will shape its future. Philosophy's special interest lies in the cultivation and pursuit of critical reflective thought: the development and application of logical, disciplined questioning to all aspects of human endeavor. While philosophy is worthwhile because of the factual information which it conveys to students (through such courses as logic, ethics, bioethics, philosophy of science, etc.), its special and overriding value lies not in its concrete contents, but rather in the manner in which it approaches any topic: with an eye towards and an emphasis on our capacity for critical reflection about what we think we know and believe concerning ourselves and our world, and about how we act and should act. All of us at some time or another, are called upon to consider those ideas, principles, beliefs, assumptions and prejudices in terms of which we understand, ourselves, our relations with others and the world about ourselves. Thus everyone is forced to philosophize and it is important to do it well.

So philosophy is not essentially a body of doctrine or even a systematic framework of factual knowledge. While philosophy can teach students much that they should know about their intellectual heritage, about the ideas which have come to make the world in which they live, its special — and practical — importance lies elsewhere. An understanding of what it means to *think philosophically* is practically important for any individual who desires to live a life that is open to new ideas and possibilities and in which his own operative ideas, beliefs and objectives are thoughtfully informed. An individual who is thoughtfully informed is one who realizes the decisive role his ideas and beliefs play in shaping and guiding his actions; who weighs, assesses, and compares them with other notions and thus does not merely accept them blindly. Teaching both the importance of being an "informed individual" in this sense, and teaching how one goes about being one is the job of philosophy.

Perhaps ironically, the study of philosophy is most important for professionals whose day to day activities are not intellectual or academic in the narrow sense. The assumption behind this claim is that action must be informed by thought, and that this is especially vital for those such as physicians whose decisions directly affect the lives of others. Many of the most crucial decisions one makes are philosophical either in the sense that they demand the reassessment of the fundamental beliefs and principles which govern the way in which one ordinarily makes decisions, or in the sense that one is confronted with the need

to make a decision where no clear-cut application of established judgmental criteria is possible. (Either because one is dealing with an abberrant case which cannot be clearly subsumed under one set of criteria or because there are conflicting sets of criteria.) In such situations what is important is that one be open to possibilities, that one possess the capacity to think through the consequences of possible alternatives and that one be sensitive to the irreducibly human and non-scientific implications of the course of action which one chooses. And it is in the study of philosophy that all these skills are emphasized and through the study of philosophy that they are developed.

Another aspect which marks the importance of the study of philosophy for would-be physicians lies in the non-medical role which many physicians either are called upon or choose to play in their communities and at large. One might also note that in the near future decisions of enormous significance concerning health care and its availability — decisions in which the medical community will play a vital role — will be made. Here again the need for careful critical reflection, and the need to be open to the needs, opinions, prejudices, and fears of others is obvious. In an age in which the vital scientific and technical aspects of medicine are advancing with leaps and bounds it seems to be reaffirmed that the actual practice of medicine, the healing of the afflicted, requires that its practitioners possess more than these scientific skills. To this end we recommend two things. First, that the criteria in terms of which potential physicians are selected for admittance to medical school be expanded in such a way that the extra-scientific qualifications and aptitudes of the candidates are brought into consideration, and second, that a core-curriculum in the liberal arts be included in undergraduate pre-medical programs.

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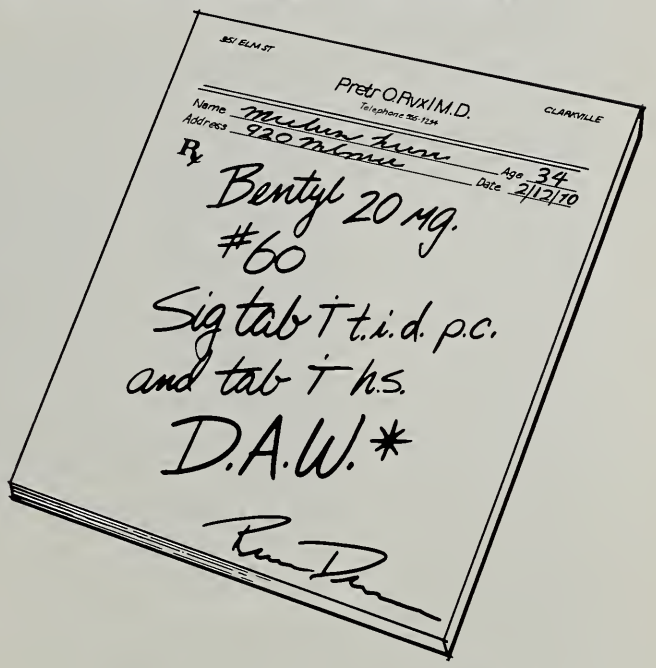

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THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS.
For use in the treatment of infant colic (syrup).
Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS: Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis); paralytic ileus, intestinal atony of the elderly or debilitated patient; unstable cardiovascular status in acute hemorrhage; severe ulcerative colitis; toxic megacolon complicating ulcerative colitis; myasthenia gravis.

WARNINGS: In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. There are rare reports of infants, 6 weeks of age and under, administered dicyclomine hydrochloride syrup, who have evidenced respiratory symptoms (breathing difficulty, shortness of breath, breathlessness, respiratory collapse, apnea), as well as seizures, syncope, asphyxia, pulse rate fluctuations, muscular hypotonia, and coma. The above symptoms have occurred within minutes of ingestion and lasted 20 to 30 minutes. The timing and nature of the reactions suggest that they were a consequence of local irritation and/or aspiration rather than a direct pharmacologic effect. No known deaths or permanent adverse effects have been reported. Bentyl syrup should be used with caution in this age group.

PRECAUTIONS: Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy.
Use with caution in patients with:
Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon.
Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension.
Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.
Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur.

ADVERSE REACTIONS: Anticholinergics/ antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia; urinary hesitancy and retention; blurred vision and tachycardia; palpitations; mydriasis; cycloplegia; increased ocular tension; loss of taste; headache; nervousness; drowsiness; weakness; dizziness; insomnia; nausea; vomiting; impotence; suppression of lactation; constipation; bloated feeling; severe allergic reaction or drug idiosyncrasies including anaphylaxis; urticaria and other dermal manifestations; some degree of mental confusion and/or excitement, especially in elderly persons; and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation.

DOSAGE AND ADMINISTRATION: Dosage must be adjusted to individual patient's needs.
Usual Dosage
Bentyl 10 mg. capsule and syrup: *Adults:* 1 or 2 capsules or teaspoonfuls syrup three or four times daily. *Children:* 1 capsule or teaspoonful syrup three or four times daily. *Infants:* ½ teaspoonful syrup three or four times daily. (Dilute with equal volume of water.)
Bentyl 20 mg.: *Adults:* 1 tablet three or four times daily.
Bentyl Injection: *Adults:* 2 ml. (20 mg.) every four to six hours intramuscularly only.
NOT FOR INTRAVENOUS USE.

MANAGEMENT OF OVERDOSE: The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanecol chloride USP) should be used.

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SOUTH CAROLINA MEDICAL BUILDING: 1970-1981

C. TUCKER WESTON, M.D.*

A resolution presented by the Columbia Medical Society to the SCMA House of Delegates Annual Meeting of May, 1970, started the ball rolling that eventually became the three story building known today as the SCMA Headquarters Building. Their comprehensive resolution was presented to the SCMA Council first and then passed on to the House of Delegates. Initially, it was to be accomplished in two steps: (1) That the Assistant Executive Officer of the SCMA should reside and have his office in Columbia, and (2) that the Executive Office and operation be transferred from Florence to Columbia no later than 1975.

At the July, 1971 meeting of the SCMA Council, a Statewide Committee was authorized to negotiate with the Columbia Medical Society to explore the feasibility and location of a permanent home for both organizations in Columbia. The Columbia Medical Society had offered to pool its permanent home fund with that of the SCMA to achieve a common goal.

The chairman of the 1971 permanent Home Committee was Dr. Frank C. Owens of Columbia, and the other members were C. Tucker Weston, M.D., Donald Kilgore, M.D., James H. Gressette, M.D., Douglas Jennings, M.D., and Ethel Madden, M.D. The combined permanent home funds from SCMA and the Columbia Medical Society were approximately $147,000.00 A tract of land bounded on the east by Richland Memorial Hospital and on the west by the Bull Street Extension freeway was recommended to Council by the Committee. This property was selected over property nearer the Capitol due to easy access from many highway arteries coming into the city.

In March of 1972, the purchase of that tract of land on Medical Park Road was approved by the SCMA Council. The Columbia Medical Society's contribution to the Permanent Home Fund assured it of being the privileged first tenant in the proposed building.

In August of 1972, C. Tucker Weston, M.D., was elected chairman of the Permanent Home Committee of the SCMA, Manly Stallworth, M.D., Vice Chairman, and Mr. Richard Pugh, Secretary. At the September, 1972 meeting of the Committee, the architectural firm of Lyles, Bissett, Carlyle and Wolff was selected for the planning and development of the SCMA Building and the realty firm of Keenan and Kittrell selected as real estate advisors and consultants to the architectural firm and to the Committee. Included in their role as consultants Keenan and Kittrell was to act as agents to secure tenants and handle rentals for the building after its completion.

Plans for the construction of the building were labored over and final decision envisioned a

* P. O. Box 706, Columbia, S. C. 29202

structure of steel frame, glass and brick exterior, 3 stories totaling 24,900 square feet. The area would also include 83 parking spaces. At the outset it was planned for the Association to occupy 2,896 square feet on the ground floor, Columbia Medical Society to occupy 724 square feet on the second floor and for 15,532 square feet to be available as rentable space.

The SCMA Building was officially dedicated on April 1, 1976, in an impressive ceremony to which all members were invited. Dr. James H. Sammons, Executive Vice President of the AMA was a special guest, along with many other government, business and private concern leaders who joined in tribute. It was a momentous occasion marking years of planning, tremendous dedication and great emotional triumph for members of the South Carolina Medical Association and staff to witness the completion of a dream.

Slowly the building was occupied with tenants. The first tenant was the Columbia Medical Society, followed by the newly founded S. C. Medical Care Foundation, the Three Rivers Health Systems Agency, the Columbia Achievement Center, A-1 Collection Agency, Midlands Emergency Medical Service and the Rural Health Delivery Project. As of the writing of this article the Building is 100 percent occupied and the current tenants are as follows: SCMA, SCMB Data Processing Center, Columbia Medical Society, Physicians Care Health Organization (HMO), The Columbia Achievement Center, Three Rivers Health System Agency, Midlands Emergency Medical Service, and S. C. Medical Care Foundation/PSRO. Being located in such a prime location in relation to hospitals and other medical care facilities, inquiries are still frequently made regarding possibility of rental space.

The means for financing the construction of the building was initially through funds from the permanent home fund of the SCMA and Columbia Medical Society, as well as memorial contributions from numerous members. In May 1973, the SCMA House of Delegates ordered a special assessment of $60.00 per year for each member for three years totaling $180.00. This special assessment was instituted to get the building over the difficulties of occupancy, taxes, repairs and establishing itself as a self-sustaining corporation. The assessment was for the period 1973-76, but was renewed for the period 1977-79. With the current trend in the financial success of the Data Processing Center, there should never again be a need for a special assessment for support of the building.

In order to insure that the Building Corporation would never have to depend on the Association again, other means of increasing the revenues of the Building were sought. Full occupancy of all rentable space was primary. The S. C. Medical Care Foundation moved from its suites on the first floor in 1978 to occupy the entire third floor. Following this move, the Association spread its offices to use the space previously occupied by the Foundation. Knowledge of the needs of PSROs in the United States for data processing services brought to the minds of the members of the Building Corporation Board a means of adding income to the Building Corporation.

In the spring of 1979, a data processing manager/analyst was hired to develop a data processing system inviting and catering to the needs of PSROs. Following the hiring of the data manager, a small computer was purchased by the SCMA and leased to the SCMB. The first computer has since been paid for. The Data Processing Center has grown in staff, hardware, software, contracts and scope. Beginning with one data processing contract and a budget of $91,535.00, it has grown to producing gross income of $254,843.00 during the last fiscal year. There are now four full time keypunch operators, a data processing manager, a programmer, and part-time assistance for financial, bookkeeping and secretarial needs. The part-time assistance is provided by members of the SCMA staff. The time spent on behalf of the SCMB is reimbursed to the Association.

Contracts for providing data processing services to PSROs are being sought at every opportunity. Currently five contracts are served, and others in the negotiating process. It is felt that 12 contracts can be adequately handled with existing management capabilities. Since the purchase of the first small Digital Equipment computer, a large Data General computer was purchased by the SCMA and leased to the SCMB; as of January, 1981, an even larger IBM computer has been rented. Having the larger machine capacity means that the SCMB Data Center will no longer be dependent on other larger processing center

sources for time sharing services and expanded memory capacity.

Not only has the Data Processing Center provided income to the Building Corporation establishing it as a profit-making business on its own, but also, it has contributed willingly and generously to such Association activities as the 1980 Annual Meeting CME program and to the S. C. Institute for Medical Education and Research. In the future the Building Corporation plans to continue its sponsorship of such programs and activities.

In addition to development of the Data Processing Center, the Building is no longer managed by the Keenan Company Realtors. In November, 1978, the Board agreed that self management would provide better, more prompt service to the tenants and would save the building money. Members of the SCMA staff serve the building in the areas of building management, financial directorship, bookkeeping and recording secretary to the Board of Directors.

Great strides have been made since the dream of a permanent home was first envisioned in 1970. The empty tract of land purchased with care and concern now supports a fine architectural structure that is fully occupied, meeting its financial obligations and including a profit-making data processing business which looks toward further growth potential. The South Carolina Medical Association Building Corporation and the members of the South Carolina Medical Association who have supported it have every reason to be confident that the progress of the SCMA Building as a business is no wispy illusion, but rather, a solid foundation molded from the dreams of dedicated physicians of South Carolina.

Current members of the SCMB Board of Directors include: C. Tucker Weston, M.D., Chairman, J. Jal Jameson, M.D., Vice Chairman, James Garner, M.D., Secretary, Waitus O. Tanner, M.D., Treasurer, James Duncan, M.D., and William H. Hunter, M.D. □

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S.C. MEDICAL ASSOCIATION ANNUAL MEETING & EXHIBITION
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Editorials

GUEST EDITORIAL: THE BRITISH NATIONAL HEALTH SERVICE EIGHT YEARS LATER

The opinions expressed in guest editorials are those of the writer and do not necessarily reflect the policy of the South Carolina Medical Association.

I had the opportunity of spending a sabbatical year as a consultant in Cardiology at Guy's Hospital and St. Bartholomew's Hospital, London, England, during the year 1979-1980. A similar year had been spent at Guy's Hospital, London, in 1971-1972 and many of those experiences as well as my impression of the National Health Service was reported in the Journal of the South Carolina Medical Association at that time.[1, 2, 3] The eight year interim has resulted in many changes and in my opinion few are for the better as far as delivery of health care, medical education, and cost containment are concerned. One of the few improvements was in the field of cardiology in the two institutions where I worked. Both have developed far more extensive and aggressive cardiac services due to the energies and dedication of the cardiologists involved. Waiting lists have disappeared for cardiac services in these two hospitals. They have developed sophisticated nuclear cardiology laboratories, much of which has come about by the acquisition of private money.

The most obvious deterioration is in the relationship between the professional and non-professional staff. It is a relationship of hostility of an extreme degree. This has been brought about primarily through militant trade unionism of the non-professional employees even though lingering resentment of the class system contributes. The attitude of the non-professional employees seriously affects the morale of all of the hospital employees, professional and non-professional. The outright refusal of porters to transport patients resulting in physicians and nurses having to do it is commonplace. Similar activities of housekeeping, dietary, laundry employees, etc., were commonplace. Frequent strikes or work slowdowns were occurring or threatening to occur at all times.

The second major change was the shortage of staff. This was most serious in the area of laboratory employees. Nurses continue in satisfactory supply. Consultant positions remain fixed but have not been expanded as the demand for services due to technical advances and population increases have occurred. The burden of the physicians' work continues to fall on house staff and registrars (fellows) as the "captive" nature of the training programs continues to be used to supply physician manpower in the hospitals. The vast majority of health care delivered under the National Health Service continues to be delivered by trainees under varying degrees of supervision. The morale of the trainees has deteriorated to a very low level; most of them can see no light at the end of the tunnel and envision themselves as locked into training categories with very little chance of obtaining consultant positions. One of their greatest frustrations is the fact that medical politics is a major factor in the filling of the consultant vacancies, which occur only by attrition, and the most qualified individual may not be selected.

Facilities have changed very little in the London area in recent years. Guy's Hospital completed a major construction project in 1974 but no other major construction has occurred. Hospital services as far as comfort and convenience of the patient remain at a low level.

Private practice by consultants has flourished in recent years. This is due primarily to the fact that militant trade union activities have driven many British citizens into the private sector which previously was occupied primarily by patients from abroad, particularly the Middle East. Most private practice is now conducted in small private hospitals rather than alongside the NHS

patients in government hospitals. Private hospitals have flourished as trade unionism has deliberately forced private patients from teaching hospitals. Therefore, consultants have less time to spend in the teaching hospitals even though they keep their main base of operations there. A pure private practitioner does not exist but may well emerge in the near future. The very left wing element of the labor party is now in control of the party and still vows to eliminate by law private practice from the country if they return to power. This is in spite of the fact that approximately 5% of the population now obviously prefer it. No one seems to appreciate the fact that every private patient takes some of the load off the NHS. Private medical insurance is now provided by a number of employers as a fringe benefit, most recently to the 25,000 employees of IBM-UK, and even by one union, the National Electrical Union. BUPA (the British form of BC-BS) has a rapidly expanding enrollment.

Very little has been done to improve the lot of the GP. He has no hospital privileges. His income is so restricted that he must operate his office in a most frugal manner. He is still paid on a per capita basis regardless of the amount of services required by an individual patient. He is required to make house calls and the patients demand it.

The Englishman will never give up the NHS. He prefers inconvenient and impersonal medical care delivered under an inefficient bureaucracy top heavy with administrators and under the control of non-medical personnel to a system in which he would bear the responsibility himself for his medical care. The average person has very little concept of how our system works with the multiple ways to arrive at the same end point of medical care. Many sincerely believe that medical care in the U. S. exists as a cash on the spot basis and that those without money do not get medical care. I see very little chance for improvement in the NHS in the near future as it will take a massive infusion of unavailable money and as long as the NHS exists in some form, the public feels they are getting medical care with no responsibility on their part.

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SHOULD PHILOSOPHY BE REQUIRED IN THE PRE-MEDICAL CURRICULUM?

In this issue of the *Journal*, our president-elect, Dr. William Hunter, and Professor William Maker of Clemson University discuss the need for an adequate liberal arts curriculum for undergraduate pre-medical students. This need hardly constitutes a new concern; the issue has been discussed many times by many observers for many years. However, Drs. Hunter and Maker take a surprising turn midway through their essay by arguing that *philosophy* is an especially crucial subject for would-be physicians. They develop the theme that the study of philosophy improves one's capacity for critical, reflective thought. This capacity is necessary both for making difficult judgment decisions in clinical practice and for serving one's community in non-medical capacities.

We need not be reminded of the extent to which differences in philosophies determine the great conflicts in the world. The extent to which philosophies influence our decisions in daily medical practice can, however, be easily overlooked. One can argue that medicine and philosophy have always been closely interrelated. Both medicine and philosophy as we know them, Drs. Hunter and Maker observe, originated in ancient Greece. The Hippocratic Oath, taken for centuries as a timeless standard for medical practice, dramatizes this relationship.

Examination of the Hippocratic Oath reveals that several medical practices — such as euthanasia, abortion, and surgery including surgery for stone — are specifically prohibited. These limitations on medical practice run counter to the orthodox medical practice of ancient Greece. Euthanasia was encouraged in certain situations; abortion was recommended by the greatest gynecologist of antiquity, Soranus, when the mother's life was endangered; surgery, when indicated, was not discouraged. There is very little evidence to suggest that the Hippocratic Oath was written by Hippocrates or his followers. The late historian Ludwid Edelstein argued convincingly that the Oath was written instead by the Pythagoreans.[1]

Although we seldom mention the Pythagoreans in the same breath with which we mention certain other Greek philosophers — such as Socrates, Plato, Aristotle, the Stoics, and the Epicureans — their viewpoint on the relationship of medicine to philosophy is worth examining. The Hippocratic Oath contains the statement that "in *purity* and *holiness* I will guard my life and my art." Pythagoras taught that philosophy *purifies* and frees the mind; *purity* is achieved by quiet self-examination. Medicine and science, on the one hand, and philosophy and religion, on the other, are virtually inseparable in the Pythagorean world view. Thus, the Oath expresses specific religious, philosophical, and medical tenets consistent with a Pythagorean manifesto.[1]

The relationship of medicine to philosophy in the ancient world was often complicated,[2] and I resist the temptation to opine on the nature of this relationship today. Supporting the case made by Drs. Hunter and Maker, I suggest that there are two compelling reasons for pre-medical students to concentrate on philosophy (or, alternatively, on religion studied in a philosophical way). The first is to provide a basis for later restraint in the unreflective use of technology, a problem frequently aired within our own ranks.[3] The development of rational, philosophical thought patterns provides a desirable antidote. The second reason is to provide a basis for avoidance of later emotional unrest and spiritual malaise. These common pitfalls of demanding scientific occupations[4] can be prevented, at least in part, by development of a calm, philosophical world view. The ancients emphasized the need for systematic cultivation of these desiderata; we, also, cannot assume that they will develop spontaneously outside the classroom for most of our future colleagues.

— CSB

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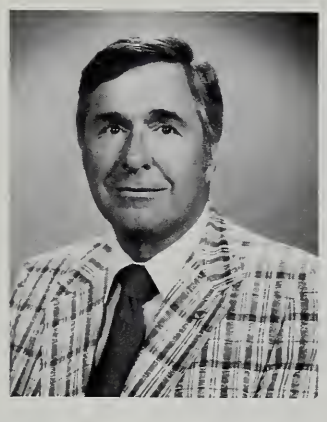
President's Page



SOMETHING FOR NOTHING — REALLY!!!

A cold wind is howling outside, the ground is frozen, the golf course temporarily closed, and even the dog is shivering thinking about having to go out in the cold to attend to his duties. The weatherman threatens snow, so the picture is very bleak. Even the phone is ringing off the hook with the area in the throes of a local flu epidemic. I would guess this season of year is necessary for the cycles of nature, and those hearty ski buffs who dislike summer as much as we dislike winter — how they can go out in the wet stuff and bust their you-know-whats is beyond me. To sum it up, winter is depressing. Every man has his own season, but once a man crosses to the upper side of 50, spring is the season most looked forward to. The arthritis is better, and probably the sap rises some in man as well as in the trees.

This spring I look forward to with more in mind than the flowers and warmth. This spring marks the new "SCMA Annual Meeting!" For many years, the Annual Meeting had reached a point where it was mostly a political meeting. Not that they weren't fun, but there was little else to be obtained from those meetings. Last year at Myrtle Beach, a hastily arranged scientific meeting turned out real well, with good attendance. Now, we reach for the stars with the Annual Meeting in Charleston this year. May 13-17 is the date, and the Headquarters Hotel is the Charleston Sheraton, not a franchise but a corporate operation with good food, good facilities and a friendly staff. All this should make you want to come to this meeting, but there is more!

Starting on Wednesday afternoon, and each afternoon thereafter, there will be seminars covering everything from new surgical techniques to basic knowledge. You can choose from between ten to fifteen of these each afternoon. We hope to tape some of these and show them back on in-house television in the Sheraton at night. Buses will carry you from the Sheraton to MUSC and back. Friday morning will be a general session on what's new in diagnostics, and Saturday morning will be a general session on diabetes. In addition, E. F. Hutton will conduct a seminar on investments and financial planning, and Carolinas Hospital and Health Services Corporation will give a seminar on office practice. CPR for wives and others will be offered. On Thursday morning and Sunday morning, the House of Delegates will meet and Reference Committees will meet on Thursday afternoon. The SCMA Auxiliary also has an exciting and complete program arranged.

The beauty of all this is that for members of the SCMA, there will be *NO* registration fee! Something that your dues finally get for you. Your hotel and food are all the expenses for one of the best scientific programs ever assembled. Something for everybody! There will be tickets for the Friday night banquet and for the Saturday President's Luncheon when I get to give Bill Hunter this job. Both will be worth attending.

Make your plans now to be in Charleston May 13-17. Come for part or all. Your membership is now worth a lot more.

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HALSTED M. STONE, M.D., *President*

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SOUTH CAROLINA'S BEGINNING EDUCATION

With the formation of its newest committee, the South Carolina Medical Association Auxiliary Committee on Alcohol and Drug Abuse Prevention, the State Auxiliary is readying itself and its county members to help the fight against alcohol and drug abuse in South Carolina.

Lest any of us think that alcohol and drug abuse is only a minor item, not one of our major problems with which to be concerned, here are some statistics from the White House Conference on Prescription Drug Misuse, Abuse, and Diversion which was held November, 1980.

From a national survey among America's high school seniors, the following statistics were compiled:

- 6.1% of our high school seniors drink some alcohol every day. This percentage has not changed in the last five years.
- 29% of our high school seniors smoke cigarettes every day. This percentage has remained constant in the last five years, with one exception: boys are smoking less, girls are smoking more.
- 11.2% of our high school seniors smoke marijuana every day. This percentage has doubled in the last three years.

Given background information on the misuse of alcohol and drugs by our youth, the need for educating older Americans in the wise use of the medicines they take, and the need for family and community education on all aspects of alcohol and drug potential misuse; the biggest problem facing the Committee was the problem of where to begin. What should they do first?

The decision was unanimous. Education.

Early in March, the South Carolina Medical Association Auxiliary will sponsor its first Alcohol and Drug Abuse Workshop for Auxiliary community leaders. With the help of the South Carolina Commission on Alcohol and Drug Abuse, this one-day forum will be packed with information, ideas and potential projects which Auxilians from counties across the Palmetto state may take home and use in their communities.

There will be three major speakers:

Margaret Clements, Program Evaluator and Medical Auxiliary Consultant for Disabled Doctors' Programs in Georgia, will speak on the Impaired Physician Program. She is with the Ridgeview Institute in Smyrna, Georgia.

H. Stephen Glenn, Associate Director of the Pacific Institute for Research and Evaluation, and Director of the Family Development Institute in Washington, D. C., will open the topic "What is Prevention?" for discussion. Mr. Glenn is a past Director of the National Drug Abuse Center for Training and Resource Development in Washington.

Sue Rushe, one of the state of Georgia's authorities on Drug Paraphernalia, and an extremely informed lecturer on the subject, will head the discussion on organizing communities to take action against drug and alcohol abuse and misuse.

These three experts, along with several professional members of the Alcohol and Drug Abuse Commission's staff, will offer information on the major problem areas of alcohol and drug abuse during the morning session. The afternoon will be spent in three mini-workshops which will cover such subjects as: Paraphernalia, Prescription Drugs, and Alcohol and Youth.

South Carolina's Commission on Alcohol and Drug Abuse has been used as a model for other states to follow because of the outstanding work it has done. Let us hope, that with dedication and hard work, the South Carolina Medical Auxiliary can soon set an example for other state Auxiliaries to follow on the difficult and demanding road of combating this destructive problem.

THE JOURNAL
OF THE SOUTH CAROLINA MEDICAL ASSOCIATION
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BRONCHIAL ADENOMA: A CAUSE OF RECURRENT AND PERSISTENT PNEUMONIA

R. RANDOLPH BRADHAM, M.D.*

Bronchial adenoma comprises less than 10% of pulmonary tumors. It causes recurrent and persistent pneumonia and atelectasis in the young and middle aged groups by virtue of partial or complete obstruction of a bronchus. A ball valve action of the tumor on a stalk is the cause for recurrent pneumonia with interval clearing. Three cases with significant bronchial obstruction causing persistent pneumonia are briefly described. Two other cases of bronchial adenoma presenting as peripheral densities on a routine chest film in asymptomatic patients were resected. All five tumors were of the carcinoid type.

CASE REPORTS

Case 1. A 52-year-old farmer presented with chest pain and fever in early April, 1978. A chest film on 4/4/78 showed an infiltrate in the right upper lobe. This improved but was still apparent on 5/22/78. (Figure 1) He was asymptomatic and was a non-smoker. Physical examination was not remarkable. Bronchoscopy was essentially negative. On 5/26/78, a right upper lobectomy was done as a tumor was found in the hilum compressing the bronchus and causing occulsion and distal abscess formation. The pathologic diagnosis was bronchial carcinoid. The margins of resection and hilar lymph nodes were free of tumor.

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Case 2. A 32-year-old registered nurse was admitted to the hospital on 1/18/79 because of pneumonia and atelectasis of the right middle lobe present since 12/28/78, at which time she was ill with pleuritic pain, fever, and cough. A chest roentgenogram demonstrated right middle lobe pneumonia and atelectasis. (Figure 2) She had been admitted to the hospital previously in February, 1978, with pneumonia of the same lobe. Physical examination was within normal limits. Bronchoscopy revealed complete occlusion of the middle lobe bronchus with what appeared to be an inflammatory process. No improvement occured with antibiotics, so on 2/4/79, the middle lobe was resected. A mass thought to be a large lymph node in the angle between the middle and lower lobe bronchi was removed also. This was found to be a carcinoid. Because of the uncertainty of complete removal, a second operation was done to remove the lower lobe and to encompass the entire area where the carcinoid was positioned. Some sheets of tumor were found on the outside of the right lower lobe bronchus. The bronchial margin and lymph nodes were free of tumor.

Case 3. A 49-year-old male developed pneumonia of the right lower lobe in February, 1980. Subsequent chest x-rays revealed incomplete clearing of the right lower lobe. (Figure 3) He improved clinically but remained mildly symptomatic with cough productive of small amounts of sputum. Physical examination was within normal limits. Bronchoscopy and biopsy

(more than the usual amount of bleeding occurred) revealed a carcinoid tumor obstructing the right lower lobe bronchus at its origin. Right middle and lower lobectomies were done. The margin of resection and lymph nodes were free of tumor.

All of these patients had uncomplicated courses thereafter and have been free of symptoms since discharge. Chest x-rays have remained satisfactory. The two patients who had peripheral tumors were asymptomatic and were found to have a pulmonary density on a routine chest x-ray. One of these is demonstrated in Figure 4. These two patients, likewise, have done well.

DISCUSSION

There is general agreement that there are three types of bronchial adenoma, each having a different potential for becoming malignant. Fortunately, the least malignant, the bronchial carcinoid, is by far the most frequently encountered. All five of the adenomas reported herein were of that type. Turnbull and associates[10] consider the term bronchial adenoma a misnomer and believe that the neoplasms frequently grouped under this heading should be called *bronchial carcinoid, mucoepidermoid carcinoma,* and *adenoid cystic carcinoma.*

Goldstraw and associates[3] reported a retrospective study of 79 cases managed in Edinburgh since 1946. Seventy-one were of the carcinoid type, seven were adenoid cystic carcinomas, and one was a mucoepidermoid carcinoma. All types demonstrated a definite malignant potential, greatest in the rare mucoepidermoid tumor and least in the common carcinoid variety. Adenoid cystic carcinoma occupied an intermediate position in frequency and malignancy. The distribution of 33 cases reported by Miller and Hopeman[6] from U. S. Army Hospitals was 27 with carcinoid, three with adenoid cystic carcinoma, and three with mucoepidermoid carcinoma.

Arrigoni and associates[1] reported on 23 patients with histologically atypical carcinoids selected from 215 patients treated for bronchial carcinoid at the Mayo Clinic. Metastases developed in 16 (70%) of 23 histologically atypical carcinoids as compared to 5.6% of the histologically typical carcinoids. The atypical variety was described as having increased mitotic activity, pleomorphism, prominent nucleoli, hyperchromatism, increased cellularity, disorganized architecture, and areas of tumor necrosis.

The major symptoms appear to be unifocal pneumonitis and atelectasis or hemoptysis. Todd and associates[9] reported a series of 67 patients who had resectional therapy for bronchial carci-

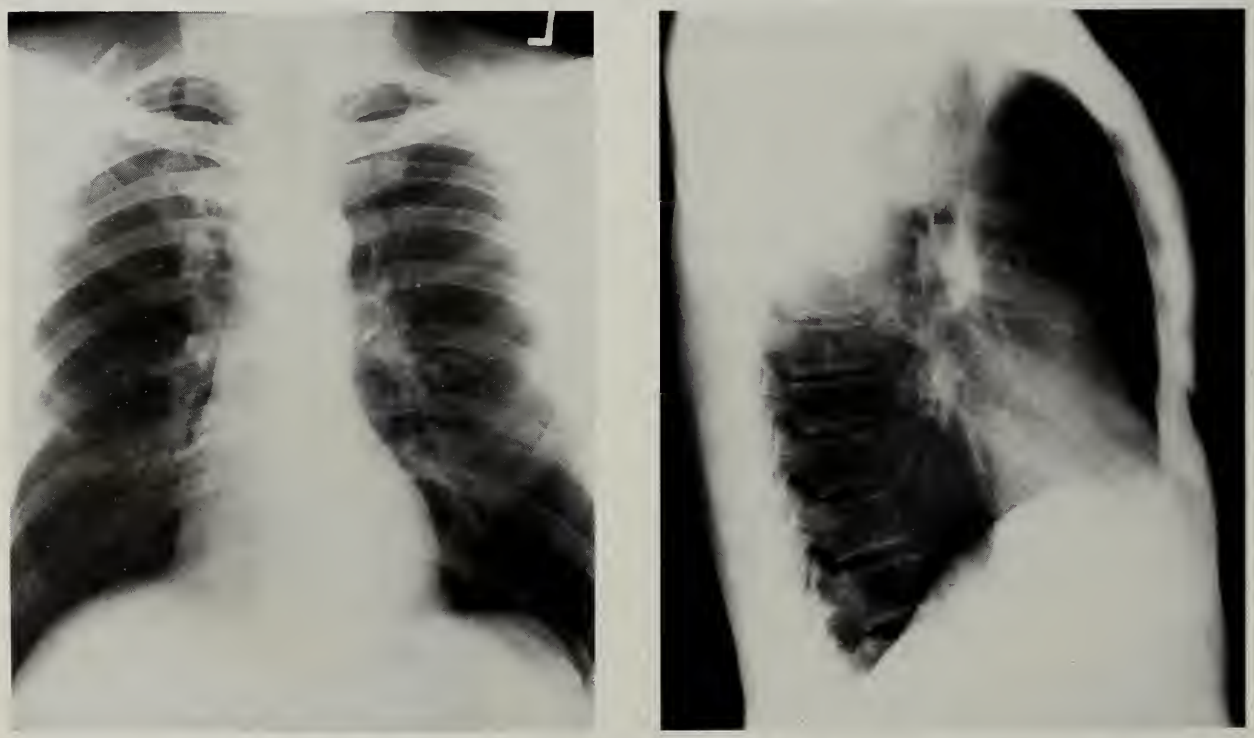

FIGURE 1 — Posterior-anterior and lateral chest roentgenogram demonstrating persistent pneumonia right upper lobe.

FIGURE 2 — Posterior-anterior and lateral chest roentgenogram demonstrating persistent pneumonia right middle lobe.

FIGURE 3 — Posterior-anterior chest roentgenogram demonstrating pneumonia right lower lobe.

FIGURE 4 — Central discrete mass in medial aspect right mid lung field.

noid tumors. Recurrent symptoms were noted in 25 patients, 20 having unifocal pneumonia, and five patients having recurrent hemoptysis. Seven had one episode of pneumonia and 10 had one episode of hemoptysis. Thirteen were asymptomatic. Okike and associates[7] carried out resectional therapy on 203 patients with bronchial carcinoid. Most of their patients had symptoms secondary to bronchial obstruction. Chronic cough occurred in 61.5%, hemoptysis in 42%, recurrent pneumonitis in 42%. Fifty-two were asymptomatic. Three patients had the carcinoid syndrome which is characterized by peripheral vasomotor symptoms, bronchoconstriction, unusual cyanosis, and sometimes by valvular disease of the right side of the heart.

Diagnosis can be suspected on the basis of recurrent symptoms and the demonstration of loss of lung volume and obstructive pneumonitis on chest roentgenogram. Central masses and peripheral lesions are not uncommon, however. Diagnosis can be confirmed by biopsy. One must be aware that biopsy of an adenoma can result in considerable bleeding and that emergency resection might become necessary, although this is uncommon. Some surgeons omit biopsy if the tumor is fairly obviously an adenoma. Cytology is not very helpful as there is little shedding of tumor cells. Only five of 133 patients having sputum cytology were positive in Okike and associates' series.[7]

The prognosis with the bronchial carcinoid is usually reported to be very good in spite of local invasion, positive nodes and disease at the margin of resection. Of the 67 patients reported by Todd and associates[9], seven had positive nodes and all have survived, six having been followed for more than five years. Two patients with diseased resection margins have survived 20 years. Meffert and Lindskog[5] reported only one recurrence after "curative" resection in 35 cases of bronchial adenoma, three of which were cylindromas (adenoid cystic adenoma) and the remainder carcinoids. Only one of 33 patients with bronchial adenoma reported by Jensik and associates[4] showed metastasis to the hilar nodes. Resection of the typical bronchial carcinoid was carried out by Okike and his group[7] in 203 patients. The incidence of metastasis was 5% (11 patients). Ninety-four per cent survived five years. The 10 and 25 year survival rates were 87% and 66% respectively. Thirty-three patients reported by Miller and Hopeman[6] with bronchial adenoma were treated in U. S. Army Hospitals. No deaths could be related to the adenomas during an average follow-up of 14.5 years.

The experience reported by Turnbull and associates[10] shows results contrary to most of those reported for bronchial carcinoid and his high incidence of the rare mucoepidermoid variety is certainly singular. Sixty-one patients with variants of bronchial adenoma were seen at Memorial Hospital for Cancer and Allied Diseases in New York between 1926 and 1969. These included 44 with carcinoid, 12 with mucoepidermoid carcinoma, and five with adenoid cystic carcinoma. Fifty-nine per cent of those with bronchial carcinoid, 60% with adenoid cystic carcinoma, and none with mucoepidermoid carcinoma survived five years. This is a very low five year survival for bronchial carcinoid. The poor results with mucoepidermoid carcinoma are consistent with other reports.

Since it is the experience of most surgeons reporting on bronchial adenoma that the tumor is relatively benign, there has been a tendency toward conservative resections. During an 18 year period Jensik and associates[4] treated 33 patients with bronchial adenoma, only 10 of whom required lobectomy or pneumonectomy. Three had excision via bronchotomy, 10 had a segmental resection, and 10 had a sleeve resection which consists of removing a sleeve of the bronchus with the tumor and reanastomosis of the bronchus. The five year survival rate was 86%. Okike and associates[8] utilized various resective tracheobronchoplastic procedures in 16 of 181 patients with carcinoid lesions. All of these 16 patients were alive and free of disease six months to 19 years postoperative. It was their opinion that pulmonary resection should be avoided unless there was histologic evidence of tumor extension into lung parenchyma or irreversible suppuration distal to the obstructive tumor. The concept of pulmonary preservation where feasible is endorsed by others.[2, 9]

None of the cases in this series were candidates for a sleeve resection. The three bronchial obstructing tumors had caused too much inflammatory destruction distally to be considered safe for sleeve resection. Regarding the other two nonobstructing tumors, there is still some hesitancy on the part of the author to do less than a lobectomy for a potentially malignant lesion in a

patient with good pulmonary function.

SUMMARY

It is prudent to consider bronchial adenoma in the differential diagnosis of someone having either recurrent unifocal pneumonia or persistent pneumonia or atelectasis. Bronchoscopy is essential for diagnosis but should be approached with a wariness and preparation for emergency thoracotomy should hemorrhage from biopsy become uncontrollable. Conservative resections should be considered for those adenomas that can be removed completely with a lesser procedure than lobectomy, provided there is not distal pneumonia or abscess. □

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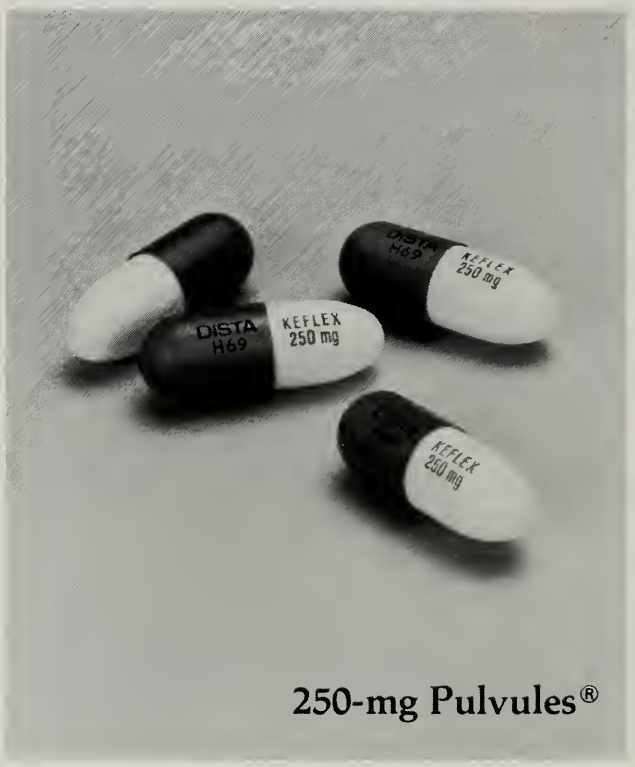

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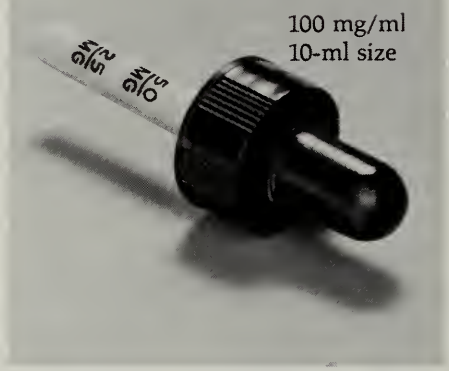

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CUTANEOUS MELANOMA — RETROSPECTIVE STUDY OF A SMALL SERIES OF PATIENTS

JOHN S. METCALF, M.D.*
JOHN C. HAWK, JR., M.D.**
ALBERT KREUTNER, JR., M.D.***

Twenty-seven cases of melanoma treated and followed by a single surgeon (J. C. Hawk, Jr., M.D.) are reviewed in order to correlate the pathologic features with subsequent clinical course. These patients underwent initial diagnosis and surgical treatment of their disease during the period of January 1, 1960 through December 31, 1971. Therapy was consistent with the accepted standards at the time of diagnosis, in most instances without benefit of Clark's "levels" or Breslow's measuring techniques. All patients have been followed at least five years or until their death. Of these patients, 12 were women (44%) and 15 (56%) were men.

The original hematoxylin and eosin stained sections used for diagnosis were re-examined. However, in many instances recuts or restaining were required. Slides were examined microscopically by one of the authors (J. S. Metcalf, M.D. or A. Kreutner, Jr., M.D.), and in cases where the original diagnosis was in doubt, additional consultation was sought. Histologic type, Clark's level of invasion, and mitotic index were recorded as well as tumor thickness as measured by calibrated ocular micrometer. Notation was made of metastatic lesions identified histologically in the regional lymph node dissection (if any) as well as of systemic or lymph node metastases occurring at any other time during the course of the disease. Patient follow-up was carried out through review of in-patient and outpatient charts.

Of the 27 patients, 11 (41%) had metastatic disease at some time in their course and six of these (22% of total population) died of disseminated melanoma at intervals ranging from one to 54 months from the time of histologic diagnosis. Five of the 12 female patients developed metastatic disease (42%) and two of them (17%) died of melanoma. Of the 15 men included in the study, six developed metastases (40%) and four (27% of the total male population) died of melanoma. While the average age at time of diagnosis of all patients studied was 46, that of patients exhibiting metastatic lesions was 49, and that of patients dying of melanoma was 53. One patient died as a result of a ruptured aortic aneurysm 86 months following diagnosis of melanoma. There was no clinical evidence of recurrent melanoma at the time of his death although an autopsy was not performed.

Melanomas were classified histologically according to the scheme developed by McGovern, et al.[1] However, in this study there were no cases of Hutchinson's melanotic freckle type. Three of the 27 (11%) were considered to have superficial spreading melanoma in-situ, 14 (52%) to have invasive melanoma with an adjacent superficial spreading component, and 10 (37%) to have invasive melanoma without an adjacent intraepidermal component.

As expected, those patients with superficial spreading melanoma in-situ have developed no metastases and remain disease free. Of the 14 patients with invasive melanoma with an adjacent intraepithelial superficial spreading component, six (43%) developed metastatic disease and two (14%) died of disseminated melanoma. Five (50%) of the 10 patients with nodular melanoma exhibited metastatic lesions and four (40%) died of melanoma during the five year follow-up period. These figures are comparable to those of Larsen and Grude[2].

Many articles have noted the important relationship between depth of invasion and prognosis. Accordingly, these melanomas were classified as to levels of invasion using the system recommended by Clark[3]. As expected, those patients exhibiting level I or level II melanomas

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(eight patients) have been free of metastatic disease during the follow-up period; in five of these patients, a regional lymph node dissection was not carried out (see Table I).

Of the 10 patients with melanomas impinging upon, but not invading into the reticular dermis (level III), nine underwent regional lymph node dissection. Of these, three were found to have regional lymph node metastases and of these three, one patient died of disseminated melanoma 54 months after initial diagnosis. The other two patients with documented lymph node metastases are alive 152 and 129 months following diagnosis. The six patients who had no metastatic disease in regional lymph nodes are alive and have been followed from 81 to 118 months since their original diagnosis.

One of the 10 patients, a 72-year-old man with a melanoma of his eyelid, did not undergo a regional lymph node dissection. He subsequently developed recurrent melanoma of his orbit 17 months after initial resection and died of metastatic disease 38 months from the time of initial diagnosis.

In nine patients, the primary melanoma invaded into the reticular dermis (level IV). Six of these patients underwent regional lymph node dissection and of these, four were found to have positive lymph nodes. One of these four patients died of metastatic disease one month following original diagnosis. An additional patient underwent regional lymph node dissection with negative nodes but died of disseminated disease 30 months after diagnosis. Of the three patients who did not undergo regional lymph node dissection, one was a 54-year-old man with a melanoma of the sole of his foot. An inguinal node metastasis was proven by biopsy and he subsequently underwent Melphalan and THIOTEPA perfusion of his extremity followed by wide excision with grafting of his melanoma site. He died of metastatic disease five months following diagnosis. Another, a 26-year-old woman with a lesion of her posterior flank, had a negative node biopsy but was found to have systemic metastases and was treated with chemotherapy. She died eight months after diagnosis. The third, a 20-year-old woman who was pregnant at the time of diagnosis of melanoma, had no therapy other than wide excision. She has been followed 153 months with no evidence of disease. In all, four of the nine patients with level IV melanomas died of disseminated disease from one to 30 months following their original diagnosis. The remaining five patients, four of whom underwent regional node dissection (three with positive nodes), have been followed 86 months to 153 months and are free of disease.

Alexander Breslow has pointed out in several articles[4, 5] that measured tumor thickness has proven to be a more accurate and reproducible gauge of prognosis than level of invasion. Again, as expected from the literature, none of the thin melanomas in the present study (less than 0.76mm. in thickness) was characterized by metastases while two of nine lesions of intermediate thickness (0.76 through 1.55mm. in thickness) metastasized (Table II). One of these patients, a 72-year-old man with a melanoma of his eyelid which measured 1.38mm. in thickness, had no regional node resection and subsequently died of disseminated disease. This was

Table I
PROGNOSIS AS RELATED TO CLARK'S LEVEL OF INVASION

Clark's Levels	No. of Patients	Metastatic Disease	Died	Survival
I	4	0	0	100%
With node dissection	1	0	0	100%
Without node dissection	3	0	0	100%
II	4	0	0	100%
With node dissection	2	0	0	100%
Without node dissection	2	0	0	100%
III	10	4	2	80%
With node dissection	9	3	1	89%
Without node dissection	1	1	1	0%
IV	9	7	4	56%
With node dissection	6	5	2	67%
Without node dissection	3	2	2	33%

Table II
PROGNOSIS AS RELATED TO THICKNESS

Thickness	No. of Patients	Metastatic Disease	Died	Survived
Less than 0.76	6	0	0	100%
With node dissection	1	0	0	100%
Without node dissection	5	0	0	100%
0.76 - 1.5	9	2	1	89%
With node dissection	8	1	0	100%
Without node dissection	1	1	1	0%
Greater than 1.5	12	9	5	58%
With node dissection	9	7	3	67%
Without node dissection	3	2	2	33%

the only lethal melanoma in our study less than 1.5mm. in thickness. The location in this instance may have had special prognostic significance. As expected, most (eight of 12) of those patients with thick (greater than 1.50mm.) melanomas were found to have regional lymph node metastases and four died of metastatic melanoma. One patient who had negative regional lymph nodes died of disseminated melanoma and an additional patient with a melanoma 2.9mm. in thickness died eight months after diagnosis without having histologically documented regional lymph node metastases (regional lymph node dissection was not performed).

Another parameter measured during the present review was the mitotic index, expressed in this paper as the average number of mitoses per five 400X wide fields. In most instances, at least 20 fields were counted though in a few cases the available sections would not permit this number. The grading system recommended by McGovern, et al.[1] was used: Grade I — fewer than one mitosis per five 400X wide fields; Grade II — between one and five mitoses per five 400X wide fields; and Grade III — greater than one mitosis per 400X field. Of the nine patients whose lesions were classified as grade I, two were found to have lymph node metastases at the time of regional node dissection. None of these nine patients has developed recurrent disease during the follow-up period. Of the 13 patients with grade II tumors, five had metastases and four died. Four of the five patients with grade III melanoma exhibited metastases and two died of metastatic disease. This apparent relationship between mitotic index and prognosis may be linked to such other variables as histologic type[6] or depth of invasion, however.

Table III summarizes the histologic characteristics of the six melanomas resulting in death. The following features were found to be indicators of a poor prognosis: 1) invasive melanoma with or without an adjacent superficial spreading component; 2) depth of invasion greater than 1.5mm.; 3) a grade II or greater mitotic index. Ten patients exhibited all of these findings. Eight of these (80%) had regional node metastases and five (50%) died of melanoma. Two patients had all three indicators of poor prognosis but have remained disease free 100 and 153 months since resection of their primary tumors. One of these patients had undergone regional node dissection with no node metastases identified. The other patient did not undergo regional node dissection or other adjunctive treatment as she was pregnant at the time of diagnosis.

Of the 17 patients not exhibiting all three of these characteristics, 11 underwent regional lymph node dissection. Two of these 11 patients were found to have nodal metastases. These two patients have now been followed 152 and 120 months respectively, and have no sign of residual melanoma. One additional patient, the man with the eyelid lesion previously mentioned, died of

Table III
CHARACTERISTICS OF LETHAL MELANOMAS

Type	Depth	Level	Grade
1. N.M.M.	4.4mm.	IV	2 (3.1/5HPF)
2. Inv. + SS	4.2mm.	IV	3 (6.25/5HPF)
3. N.M.M.	2.9mm.	IV	2 (1.75/5HPF)
4. N.M.M.	3.2mm.	III	2 (4.25/5HPF)
5. N.M.M.	7.2mm.	IV	3 (8.25/5HPF)
*6. Inv. + SS	1.4mm.	III	2 (1.5/5HPF)

Nodular melanoma = N.M.M.
Invasive melanoma with superficial spreading component = Inv. + SS

Table IV
LONG TERM SURVIVORS WITH PREVIOUS DOCUMENTED METASTATIC DISEASE

Type	Depth	Level	Mitoses	Follow-up
1. N.M.M.	5.8mm.	IV	18/5HPF (3)	144 mos.
2. Inv. + SS	0.85mm.	III	0.5/5HPF (1)	152 mos.
3. Inv. + SS	6.5mm.	IV	Less than 1/5HPF (1)	120 mos.
4. Inv. + SS	1.8 mm.	III	3.75/5HPF (2)	129 mos.
5. Inv. + SS	2.7mm.	IV	7.75/5HPF (3)	86 mos.

Nodular melanoma = N.M.M.
Invasive melanoma with superficial spreading component = Inv. + SS

metastatic melanoma. He had not undergone a regional lymph node dissection.

Finally, Table IV summarizes characteristics of those patients with documented metastatic disease to regional lymph nodes who are long-term survivors. All but one have now been followed 10 years or longer, the exception being the patient who died of the ruptured aneurysm 86 months after diagnosis.

DISCUSSION FROM SURGICAL STANDPOINT

This small retrospective series confirms the value of complete histologic grading of all melanomas as a basis for planning definitive treatment. It is recognized that the behavior of melanoma may at times be unpredictable, with the clinical course unexpectedly favorable or unfavorable. Nevertheless, a logical program of treatment can be based on the careful study of the histologic characteristics of the *full thickness* of the lesion, preferably obtained by excisional biopsy, including evaluation of Clark's level of invasion, the thickness of the lesion in millimeters and the mitotic index.

The favorable survival data for patients undergoing node dissection as shown in Table I and II (14 of 17 alive at five years overall) suggest that an aggressive approach to surgical treatment is fully justified.

Our present plan of treatment is as follows:

1) All suspected lesions are subjected to full thickness biopsy. This is *excisional* if the size and/or location permits, or *incisional* when the lesion is large or inconveniently located. In all cases, any closure is carried out *without* undermining or extensive flap mobilization.
2) All pathologic material, including that received from biopsies or excisions carried out elsewhere, is personally reviewed by the surgeon with the pathologist with reference to thickness in millimeters, Clark's level of invasion, and mitotic index.
3) Clark's level I lesions are considered to be adequately excised with a local margin of 1 cm. or more, and primary closure is usually feasible.
4) Clark's level II lesions and Clark's level III lesions of less than 0.76mm. thickness are excised with a skin margin of 5 cm. in all directions to include the underlying deep (muscular) fascia. Except in rare instances, skin graft is required for closure. For lesions on digits or on the ear, appropriate amputation is used.
5) Clark's level III lesions, 0.76mm. or greater in thickness, and all lesions of Clark's level IV or V are subjected to regional lymphadenectomy as well as wide excision as described above. This is done in continuity when the anatomic location permits. Where this is not feasible, lymph node dissection is carried out three to six weeks after excision of the primary lesion. For lesions draining to the groin, superficial groin dissection (inguinofemoral) is first carried out, the tissue is examined by the pathologist with frozen section, and iliac dissection is performed only if a positive node is demonstrated. Dissection of more than one drainage area may be carried out simultaneously (e.g. bilateral axillary, bilateral groin, axillary and groin) if the location of the lesion so dictates.

In all cases, an appropriate search to rule out distant metastases is done before embarking on definitive resection.

The patients in this study were treated prior to the introduction of immunotherapy as an adjunct to the surgical treatment of selected cases, particularly those considered to have histologically

or clinically unfavorable lesions. It is as yet undetermined what the ultimate benefit of such adjunctive therapy will be, but reports from other centers suggest it has potential value. At present, we advise consideration of immunotherapy for 1) all patients with lesions invasive to Clark's level IV or V, 2) those with lesions greater than 1.5mm. in thickness, 3) those with level III lesions of intermediate thickness but with histologically positive nodes.

SUMMARY

In summary, this small retrospective study confirms the reports of others that through careful histologic examination of the primary melanoma, with evaluation of specific parameters, some of which are objective measurements, those patients who are likely to develop metastatic disease may be identified and appropriate treatment planned accordingly. □

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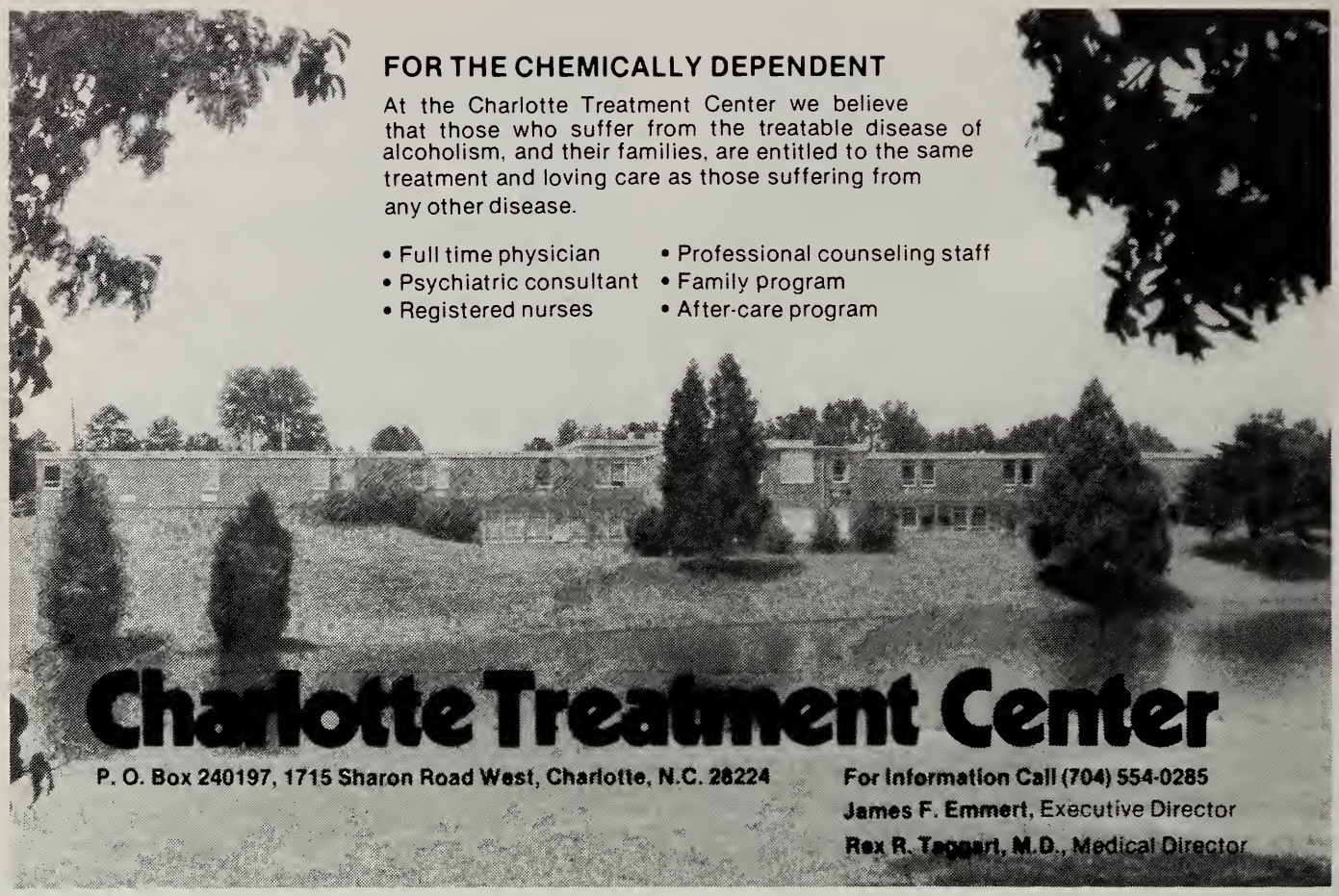

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NON-INVASIVE CEREBROVASCULAR EVALUATION

C. EDWARD FLOYD, M.D.*

Because stroke is the third leading cause of death in the U.S.A., it is imperative that we refine our techniques to predict and prevent stroke. Most strokes are caused by lesions in the extracranial arteries, many of which can be corrected surgically with early dagnosis. Carotid endarterectomy has been well established in the surgical management of extracranial cerebral vascular occlusive disease. The results have been excellent with low mortality and morbidity rates.

Non-invasive vascular studies have become a very important tool in the diagnosis and management of patients with cerebrovascular occlusive disease. The vascular lab can provide a comprehensive evaluation of each patient.

A comprehensive vascular history is taken and recorded by the lab nurse. Following this, a detailed vascular physical examination is done. All the major arteries are palpated and graded on a scale of 0-4 and auscultated for bruits. Brachial blood pressures are taken bilaterally.

The techniques that we have established in our lab combine the following methods and are described below:

1. Cerebral doppler analysis
2. Carotid phonoangiograph (CPA)
3. Ophthalmic plethysmography (OPG)
4. Timed Pulse Delay OPG.

METHODS

Cerebral doppler analysis: a bidirectional doppler flow meter is used to determine the quality and direction of flow present over the common carotid, internal carotid, external carotid, and vertebral arteries. Reversal of flow in the vertebral artery with a significant (20mm Hg) difference in the brachial artery pressures would indicate a Subclavian or Innominate Steal Syndrome.

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The supra-orbital artery, a branch of the ophthalmic artery, reflects blood flow from the Circle of Willis and internal carotid artery. This vessel is easily palpable as it emerges from the orbit. Normal flow from this artery is antegrade; however, in complete or almost complete obstruction of the ipsilateral internal carotid artery, there will be a reversal of this flow into the orbit. This is derived from collaterals of the external carotid system — most frequently the superficial temporal artery. Compression of the collateral supply will decrease the doppler signal.

The presence of retrograde flow in the supra-orbital artery with obliteration of flow on compression of the superficial temporal artery is indicative of a hemo-dynamically significant lesion. Marked degrees of internal carotid artery stenosis (up to 50%) can be present without the lesion being hemodynamically significant. One note of caution: just because a lesion is not hemodynamically significant does not rule out its clinical significance. (Figure 1)

Carotid Phonoangiography (CPA): CPA is similar in technique to phonocardiography. An ultra-sensitive, hand-held microphone is placed over the carotid artery at three levels in the neck: low in the neck over the area of the common carotid artery; mid-neck over the area of the carotid bifurcation; and high in the neck at the angle of the mandible over the internal carotid artery. The sound waves are recorded and represent the cardiac sounds and any bruit that may be present. A polaroid photograph is made of these sounds at the different levels. The degree of stenosis can be estimated from the bruit. As the bruit extends into diastole, it becomes more significant. However, when the stenosis is greater than 85%, there may be insufficient blood flow to create a bruit. This severe degree of stenosis will be diagnosed by some of the other non-invasive studies. A referred bruit can be confirmed by CPA. (Figure 2)

Ocular Plethysmography (OPG): ocular plethysmography is an accurate method of measuring ophthalmic artery pressure. The Life Science OPG attachment for the Pulse Volume Recorder is utilized for this in our lab.

A 14mm. suction cup is applied to the lateral aspect of the sclera using a topical anesthetic. Vacuum is applied to the cup and the sclera is pulled into the cup. The volume fluctuations detected by the cup are transmitted to the PVR which produces a graphic readout of the waveforms. The pressure is increased until there are no further fluctuations indicating that intraocular pressure is equal to the ophthalmic artery pressure. This is the OPG pressure. The maximum amount of pressure applied is 110mm Hg. A difference of 5mm Hg between the two eyes usually indicates a hemodynamically significant lesion. In the method of Gee, the pressure can be increased to 300mm Hg. (Figure 3)

Timed Pulse Delay OPG – Zira: this test uses scleral suction cups to detect pulsatile variations in ocular volume. Simultaneously, ear pulses are recorded using photoelectric cells clipped to each ear lobe. The Zira OPG will measure a delay in the filling of each globe — eye-to-eye delay — as well as ear-to-eye and ear-to-ear delay. These delays are measured in milliseconds by a computer which gives a digital readout. This readout is the average of eight noise-free, blink-free, full pulse cycles. Four acute artifact-free cycles are performed and the averages are recorded. The eye cups are then reversed for quality control (Figure 4)

Diagnostic Criteria: an average eye-to-eye pulse delay of 20 ms or greater is indicative of a hemodynamically significant stenosis in the internal carotid artery on the delayed side. An eye-to-ear delay of greater than 30 ms is indicative of bilateral carotid artery stenosis. Also, a 30 ms or greater delay in the ear-to-ear delay will indicate a significant lesion in the external carotid artery.

Some of the possible uses of the cerebral vascular evaluation are:

1. *Asymptomatic carotid bruit:* after evaluation in the lab, if a hemodynamically significant lesion is not found, these patients will be followed at determined intervals. With the use of the CPA, it can be determined if the bruit is referred.

2. *Arteriosclerotic patients:* patients with arteriosclerosis in other areas, i.e. coronary, aortoiliac, etc., should be screened for severe carotid artery disease.

3. *Pre-operative patients:* when a patient is to undergo significant surgical procedures where the blood pressure may fall, it would be useful to screen these patients for potential carotid disease.

4. *Post-operative patients:* studies are useful immediately after surgery to aid in evaluation of the patency of the vessels involved. Also, patients found to have insignificant lesions on the contralateral side may benefit from follow-up studies to document any progression in the lesion.

5. *Screening:* all patients with symptoms of carotid disease are referred for evaluation. These studies aid in identifying the need for carotid arteriograms, and, if angiograms are done, will give the radiologist some direction in his study.

The present role of the vascular lab in carotid disease is still being defined. Rapid changes are taking place in this field. At the present time, we can identify patients with a hemodynamically significant lesion of the common and internal carotid arteries representing a 50% reduction of the lumen of the artery — approximately 75-80% total occlusion. Identification of these lesions can be accomplished with approximately 90% accuracy. Our results will follow in a later publication.

In our lab we have experienced no complications. However, if the patient has any history of eye problems, we always consult an ophthalmologist before the eye cups are applied.

Conclusion: the vascular lab has been very useful in evaluating patients with cerebral vascular disease and has become routine in our practice. As this field rapidly expands, there will be an explosion of uses for these techniques. □

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FIGURE 1: Doppler evaluation of supraorbital artery.

FIGURE 2: CPA with hand-held microphone positioned over carotid bifurcation.

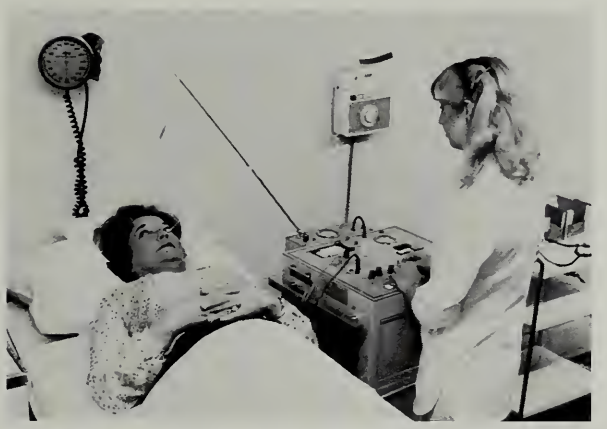
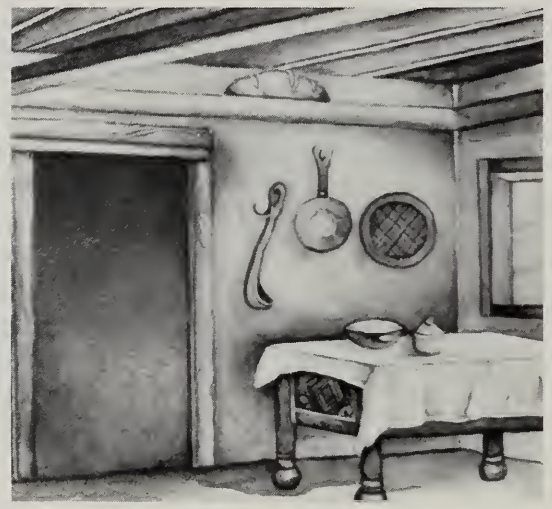


FIGURE 3: Life Science OPG with eye cup in place.

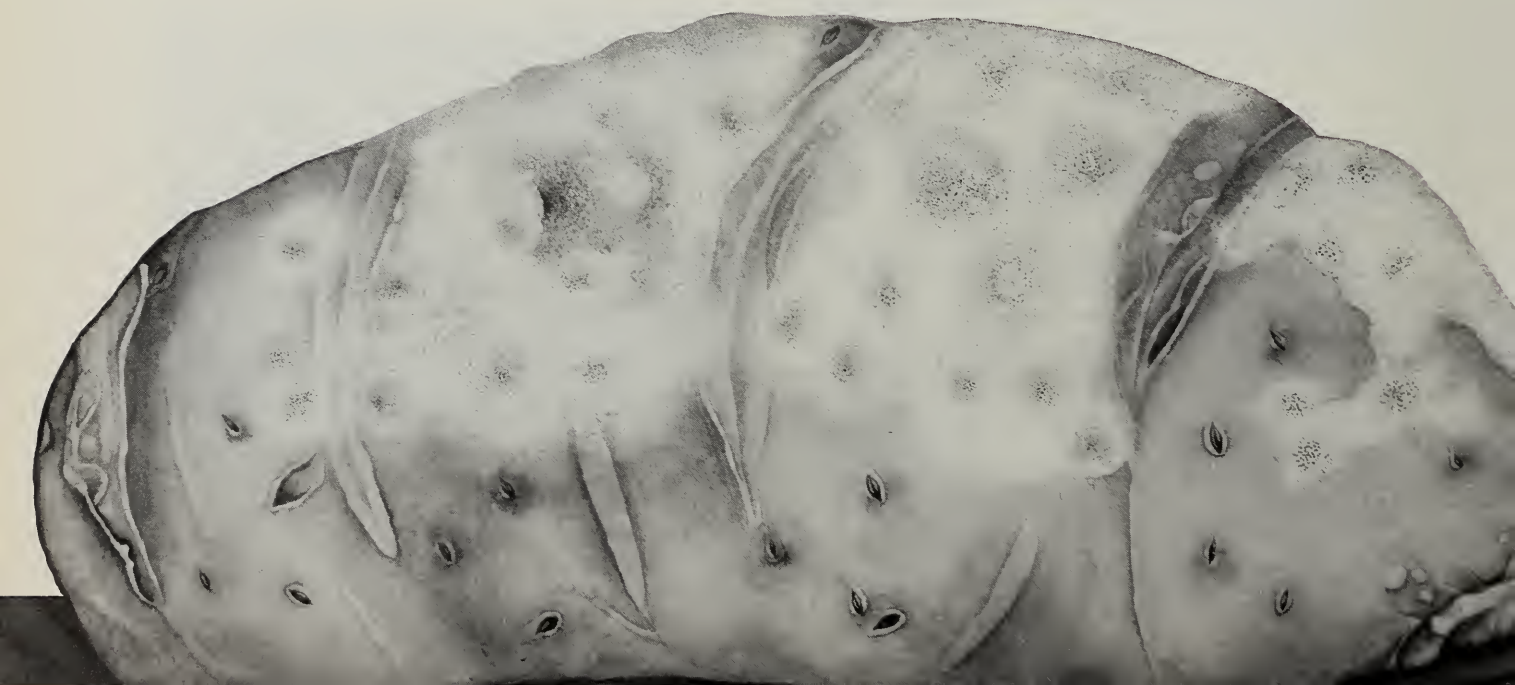
FIGURE 4: Timed Pulse Delay (Zira) with eye cups in place.

Yesterday's Folk Remedy:

A rye loaf in the rafters.



Early in this century in Central Europe, almost every farm family kept a loaf of moldy rye bread on one of the kitchen beams. When any family member was cut or bruised, it was an old custom to cut a thin slice from the outside of the loaf, mix it into a paste with water, and apply it to the wound with a bandage. It was believed that no infection would then result from the cut.[1]



CANCER CONTROL IN SOUTH CAROLINA*

JOHN S. SPRATT, M.D.**

Cancer is fundamentally a disease of cultural or social origin. Its incidence varies with ethnicity, social behavior, environment, age, and geography. The induction of a cancer requires many factors working in concert. The host of a cancer has to be genetically susceptible to the initiation of the cancer by a specific cancer starter, usually a chemical carcinogen. The host has to be exposed to the starter early enough in life for the cancer to grow to symptomatic size in the residual life span. The effectiveness of a starter may be influenced by dose, duration of exposure and the presence or absence of cancer promoters or cocarcinogens. Many factors, including simply the intake of excessive calories, may serve as a cocarcinogen though not able to induce cancer alone. Some cancers arise *de novo;* others may go through a dysplastic or premalignant phase before becoming an invasive cancer. An extreme natural variance exists in the growth rate and biological behavior of human cancers whose natural history may or may not be influenced by treatment. In spite of all these factors, cancer remains one of the most preventable and curable of all chronic diseases, a simple fact that is not generally known.

The American Cancer Society estimates that in South Carolina, approximately 8,500 new cases will occur each year and 4,500 people will die from cancer. The cost of detection, diagnosis, treatment, rehabilitation, follow-up, continuing care and lost income by and for those affected quickly becomes an astronomical amount of money. These factors combined produce an economic morbidity that can have a devastating impact on whole families, even among the comparatively well-to-do.[1] Virtually anyone can become "medically indigent" from a protracted cancer, adding to its social and public costs.

As a result of the complex origin, patient management requirements and cost, there exists a unique need for a broad range of collaboration if an effective cancer program is to come about. The material Mr. Tyson sent me has given me some insight into efforts here in South Carolina to facilitate such collaboration at the state level. Through the years I have followed similar efforts in a number of other states.

Several years ago I sketched out a conceptual model of a population-based health system and a cancer control subsystem.[13] Please appreciate that the word "system" is used in its broadest sense and simply refers to an existing structure or any modification thereof that you might wish to insert. Many elements have been discussed here in South Carolina, such as the need for accurate vital statistics (cancer registries), education, environmental controls, and effective clinical management programs.

The categories of activity within the system that impact the cancer problem both favorably and adversely can be listed.[13] The overriding objective has to be the reduction of morbidity and mortality from cancer. Agreement on such a list of factors, both favorable and unfavorable, allows greater objectivity in planning and evaluating the worth of different components of a cancer control system. The greater the degree of objectivity in a system, the greater becomes its ability to serve in reducing the morbidity and mortality caused by cancer. The common properties of any system is a special field unto itself.[2]

Dr. Nathaniel Berlin, director of the Comprehensive Cancer Center at Northwestern University, recently noted that the benefits of more complex and costly treatment are beginning to reach a plateau. Though the cure rate of childhood leukemia may be increased to 50%, 50% still die, leaving an unacceptably high mortality rate. Further reduction in the magnitude of the cancer problem really brings us into the "Era of Prevention." Prevention may be defined from

* Presented at the South Carolina Medical Association Scientific Session on Cancer, May 1-4, 1980, Myrtle Beach, S. C.

** Department of Surgery, University of Louisville School of Medicine, Louisville, Ky. 40292.

the causes of cancer to produce a reduction in the incidence of cancer.[3]

Dr. Berlin further subdivides prevention into primary and secondary. *Primary prevention* are the processes that reduce the *incidence* of cancer. *Secondary prevention* is the process that reduces the probability that an existing premalignant lesion will become malignant, or that an existing but still localized cancer will give rise to metastases.

Primary prevention obviously requires education, motivation, compliance, reduced exposure to cancer starters through safety, and environmental control regulations. Secondary prevention requires optimum screening or detection and early treatment strategy. Since cancer risk is a life-long proposition, the strategy for secondary prevention must be a life-time plan for detection intervention reinforced by health education and health counseling at each opportunity. Thus, each person may reduce his cancer risk by practicing primary prevention and engaging in self-surveillance for secondary prevention. Health counseling must stress these measures. Examples of the first are not smoking, avoiding excessive sunlight and possibly making dietary changes with reduced fats and total calories and an increase in fiber. The second would be monthly breast self-examinations (BSE).

The best-designed efforts at primary prevention are, unfortunately, constantly undermined by highly sophisticated, extremely subtle and effective commercial advertising programs that encourage and motivate behavior and consumption undesirable from the standpoint of primary cancer prevention.[4]

Knowledge of factors associated with increased probability of acquiring cancer usually is obtained first from epidemiological studies of exposed populations. Identification of potential cancer starters or carcinogens is now possible in the laboratory. This identification does not establish *a priori* that every implicated compound will cause cancer in man. Carcinogens exhibit differences in species susceptibility, metabolism, synergism from cocarcinogens, and anticarcinogens much as retenoids and time-dose responses. The association between the apparent susceptibility of man to many animal carcinogens and vice versa has been convincing enough for Congress to require, by the often attacked Delaney amendment to the Public Health Laws, that chemicals that can cause cancer in laboratory animals not be added to human foodstuffs or other consumables. One of the most active agencies — International Agency for Research on Cancer, issues an Annual Report — a growing, impressive body of information on causes of cancer.

Environmental and work place causes of cancer or potential causes of cancer are simply too numerous to review in this presentation. Those interested in greater detail are referred to a recent, extensive review by a group of epidemiologists (Bridbord, et al[5]) at the National Cancer Institute.

As stated earlier, many kinds of cancer are associated with variations in cultures and social practices. As part of a cancer control problem, public education beginning very early in life must be provided regarding behavioral and social practices associated with lower incidences of cancer. These I have summarized in a tract entitled "Your Behavior, Environment and Cancer," used for patient and family education. It is an appendix to reference 6. A copy of this tract will be provided upon request, since it can be used as a basis for health counseling in primary and secondary prevention.

In the area of secondary prevention, variation in screening and detection strategy may be required depending on the risk level of the screened group. For example, screening practices might vary among the worker groups known to be at different risks for the development of cancer. Whenever a recommendation is made regarding mass screening of, say, the population of South Carolina, the cost can become absolutely astronomical. Without screening and early treatment strategy of proven effectiveness the entire costly program may have no health benefit. Even the clinical research necessary to prove effectiveness can become very expensive, and there exist numerous pitfalls and variations in cancer biology that can negate the value of the most conscientiously conceived screening program. These pitfalls have been partially reviewed in a monograph entitled, *The Epidemiology of Screening for Cancer.*[6] The monograph documents the unfortunate existence of numerous gaps in our knowledge of screening as applied to various cancers.

Eddy[7] at Stanford has taken the consideration of optimum life-time screening strategies one

step further with computer simulation models that can consider the variables that effect strategy selection. His work was recently presented at the National Board of The American Cancer Society (ACS) and is now the basis for recent policy revisions on screening by ACS. Eddy's documentation is extensive and his conclusions are summarized in Table 1. The recommendations are simple, should be included in routine physical examinations at the specified intervals, and taught well and practiced carefully with functional, safe equipment used with minimal error and risk. The suggested changes greatly reduce cost with enhanced effectiveness.

A number of old stand-bys are no longer on this list or are practiced less frequently. The reason is simple. Existing clinical research simply did not support the previous recommendations. In my own case, I have frequently talked to community practitioners who confirmed that yield was so low and cost so high with the older system that they disregarded the older system as unacceptable and excessively expensive with respect to other health priorities.

Treatment, patient and family education, rehabilitation and follow up become the remaining components of cancer control extending from screening and detection of asymptomatic disease to clinical practice. Emphasis should always be placed on the facts that (1) cancer is the most curable of all chronic diseases, (2) the first treatment program is always the most important and must be the most carefully planned and specific, (3) accelerated rehabilitation must be a part of the clinical program, (4) the follow-up program must be designed for maximum patient benefit, and (5) cancer does produce a major emotional, social and economic stress on its victims that must be considered in the overall treatment plan.[1, 8, 9, 11] □

Table I
CANCER-RELATED CHECKUP*

Test or Procedure	Sex	Age	Frequency
Chest X-ray	— Not Recommended —		
Sputum Cytology	— Not Recommended —		
Sigmoidoscopy	M & F	Over 50	Every 3-5 years; after 2 neg. exams 1 year apart
Stool Guaiac Slide Test	M & F	Over 50	Every year
Digital Rectal Examination	M & F	Over 40	Every year
Breast Self-Examination	F	Over 20	Every month
Breast Physical Examination	F	20-40	Every 3 years
		Over 40	Every year
Mammography	F	Between 35-40	Baseline
		Under 50	Consult physician
		Over 50	Every year
Health Counseling and Cancer Checkup	M & F	Over 20	Every 3 years
	M & F	Over 40	Every year
PAP Test	F	20-65; Under 20 if sexually active	At least every 3 years; after neg. exams 1 year apart; more frequently in high-risk women
Pelvic Examination	F	20-40	Every 3 years
		Over 40	Every year
Endometrial Tissue Sample	F	At menopause	At menopause
		Women at high risk	

* David M. Eddy, M.D., Stanford University

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Indications
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Branchitis and pneumania caused by *S. pneumaniae* (farmerly *D.* pneumaniae)
Otitis media caused by *S.* pneumaniae (farmerly *D.* pneumaniae) and *H. influenzae*
Acute exacerbatian of chranic branchitis caused by *H. influenzae**
*Thaugh clinical impravement has been shawn, bacterialagic cures cannat be expected in all patients with chranic respiratary disease due to *H. influenzae*.
SKIN AND SKIN STRUCTURES (integumentary) infectians caused by Graup A beta-hemalytic streptocacci and staphylococci, nonpenicillinase producers.
URINARY TRACT INFECTIONS caused by *E. cali* and *P. mirabilis*. (This drug shauld nat be used in any *E. cali* and *P. mirabilis* infectians ather than urinary tract.)
NOTE: Perform cultures and susceptibility tests initially and during treatment ta manitar effectiveness of therapy and susceptibility af bacteria. Therapy may be instituted priar ta results af sensitivity testing.
Contraindications Cantraindicated in individuals with histary af an allergic reactian ta penicillins.
Warnings Cyclacillin should only be prescribed for the indications listed herein.
Cyclacillin has less in vitro activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.
Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.
Precautions Pralanged use of antibiotics may pramate avergrawth af nansusceptible arganisms. If superinfectian accurs, take appraprate measures.
PREGNANCY: Pregnancy Categary B. Reproductian studies perfarmed in mice and rats at dases up ta 10 times the human dase revealed na evidence af impaired fertility ar harm ta the fetus due ta cyclacillin. There are, hawever, na adequate and wellcantrolled studies in pregnant wamen. Because animal repraductian studies are nat always predictive af human response, use this drug during pregnancy anly if clearly needed.
NURSING MOTHERS: It is nat knawn whether this drug is excreted in human milk. Because many drugs are, exercise cautian when cyclacillin is given ta a nursing waman.
Adverse Reactions Oral cyclacillin is generally well talerated. As with ather penicillins, untaward sensitivity reactians are likely, particularly in thase wha previausly demanstrated penicillin hypersensitivity ar with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in appraximately 1 out of 20 patients treated), nausea and vamiting (in appraximately 1 in 50), and skin rash (in approximately 1 in 60). Isalated instances af headache, dizziness, abdaminal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrambacytopenia, thrambacytopenic purpura, leukopenia, neutropenia and easinophilia. These reactions are usually reversible an discantinuation af therapy.
As with other semisynthetic penicillins, SGOT elevations have been reported.
As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic ar until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulanephritis. In chronic urinary tract infection, frequent bacteriaalagic and clinical approisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.
Cyclacillin is not indicated in children under 2 months of age.
Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolanged serum half-life, patients with various degrees of renal impairment may require change in dasage level (see DOSAGE AND ADMINISTRATION in package insert).
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Tonsillitis & Pharyngitis	250 mg q.i.d.	body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d.
Branchitis and Pneumonia		
Mild ar Maderate Infections	250 mg q.i.d.	50 mg/kg/day q.i.d.
Chronic Infections	500 mg q.i.d.	100 mg/kg/day q.i.d.
Otitis Media	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Skin & Skin Structures	250 mg ta 500 mg q.i.d.†	50 ta 100 mg/kg/day†
Urinary Tract	500 mg q.i.d.	100 mg/kg/day

*Dosage shauld not result in a dase higher than that for adults.
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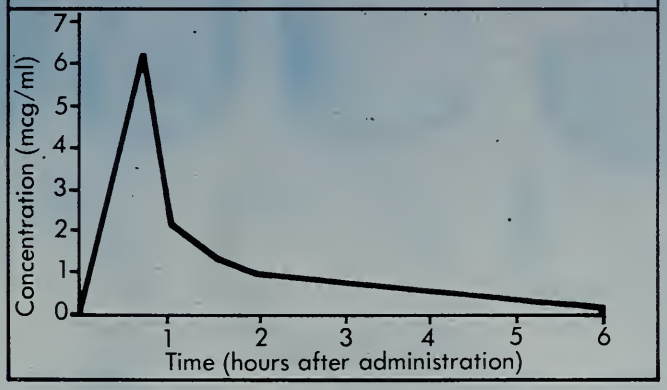

- Rapid, virtually complete absorption from GI tract
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- Rapidly excreted unchanged in urine – 1½ times faster than ampicillin

*Based on T^{o} ½ values for single oral doses of 500 mg cyclacillin tablet and 500 mg ampicillin capsule. Data on file, Wyeth Laboratories.

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NEW NAME

Editorials

MICHAEL J. HALBERSTAM, M.D. — A VOICE FOR OUR TIMES

Many authorities criticize American medicine for being under-organized and inefficient. Their proposed solutions involve varying degrees of industrialization and larger groups of physicians practicing together. A central malaise in American life today, however, is depersonalization, and the radical analysis of our society calls for smaller, less rigid units of service. In the long run these may be more efficient than larger units planned by the cost-accounting method. Medical care, being a personal service, may develop dis-economies of scale early on. Any reform of American medicine must be based not only on the need to get care to all people, but also on growing demand of all citizens, especially the young, for personal, humanistic services.[1]

— MICHAEL J. HALBERSTAM, M.D.
(1932-1980)

On December 5, 1980, a Washington, D.C. cardiologist returned home from a party, surprised a burglar, and was shot. Mortally wounded, he drove himself toward a hospital and, en route, identified his assailant. Driving his car up onto the sidewalk, he struck the crouched figure, contributing to the thief's later arrest. The murderer turned out to be a notorious criminal whom the police had been seeking for years, and the story made the national news media.

Some remembered Dr. Michael Halberstam as their doctor — a physician who scorned the label "society doctor" and showed obvious delight when a waiter would come up to him at an elegant social gathering and beam, "Doc, my back's better". Some remembered him as a concerned citizen and television personality who spoke out fearlessly on many of the issues of our times. Some remembered him as a creative writer on topics ranging from medical advice to laymen to the fictitious story of our first Jewish president. Some remembered him for his zest for living — a man who took great delight in fishing, skiing, and rowing, a man who wanted to be "the best white dancer in Washington", a man who dreamed, even at age 48, of being rookie-of-the-year in the National Basketball Association. Some remembered him for his unusual acts of charity, such as sneaking onto public school grounds at night to "put nets on basketball hoops so that neighborhood boys could enjoy the thrill of hearing a swish when they made a perfect shot".[2]

I remember Michael Halberstam as a significant contributor to the medical thought of our times. His contributions are especially remarkable in that he made them from the viewpoint of a busy, successful physician in solo private practice.

He made numerous contributions to our periodicals. None were, in my judgment, more significant than the one entitled "Liberal thought, radical theory and medical practice".

Halberstam noted the frequent tendency of would-be reformers to speak of patients as "consumers" and of medicine as an "industry" subject to the same methods of economic analysis applied to other industries. He argued that the nature of medicine makes such economic analysis meaningless:

> "One can confidently expect that in a field in which so much of the professional's work stems from the personal anxieties of his clients, and so much of the professional's effectiveness stems from a direct personal relation with the client, economies of scale would begin to disappear rather early on."[1]

He argued that truly radical thought in America would produce not an "industrialized" medical profession based on large units but rather a profession centered around small units rendering highly personalized care.

In this important essay, Halberstam challenged the critics, both within and outside of medicine, who accuse contemporary American medicine of being an inefficient "cottage industry". He challenged the critics who accuse medicine of being a "trade guild". He argued instead that we should be *more* of a trade guild, for a true trade guild manages to discipline its members — its "incompetents or overchargers" — quite efficiently. He argued that "the belief that the current medical system is totally chaotic is not borne out by the facts". He argued that solo practices and small group practices, as alternatives to large, industrialized clinics, should be strongly encouraged.

Michael Halberstam stood for the traditional rugged individualism of the solo private practitioner. Many would attack his position as "too conservative". Halberstam argued instead that his position found support in the truly "liberal" or "radical" thought of our times. He suggested that the alternative position — industrialized, standardized medicine — inevitably becomes less personal and therefore less capable of rendering effective medical care. Dr. Halberstam practiced his tenets. In his office practice, for example, he took the time to draw his own bloodwork rather than to relegate this fear-engendering task to a technician.

"Please, please all of you", his famous brother, the author David Halberstam, told the large and varied crowd who came to mourn, "remember that Michael was more confident of tomorrow than today. . . . That was his gift to all of us". We in medicine should remember his written words — they provide an alternative to centralized patterns of medical care.

— CSB

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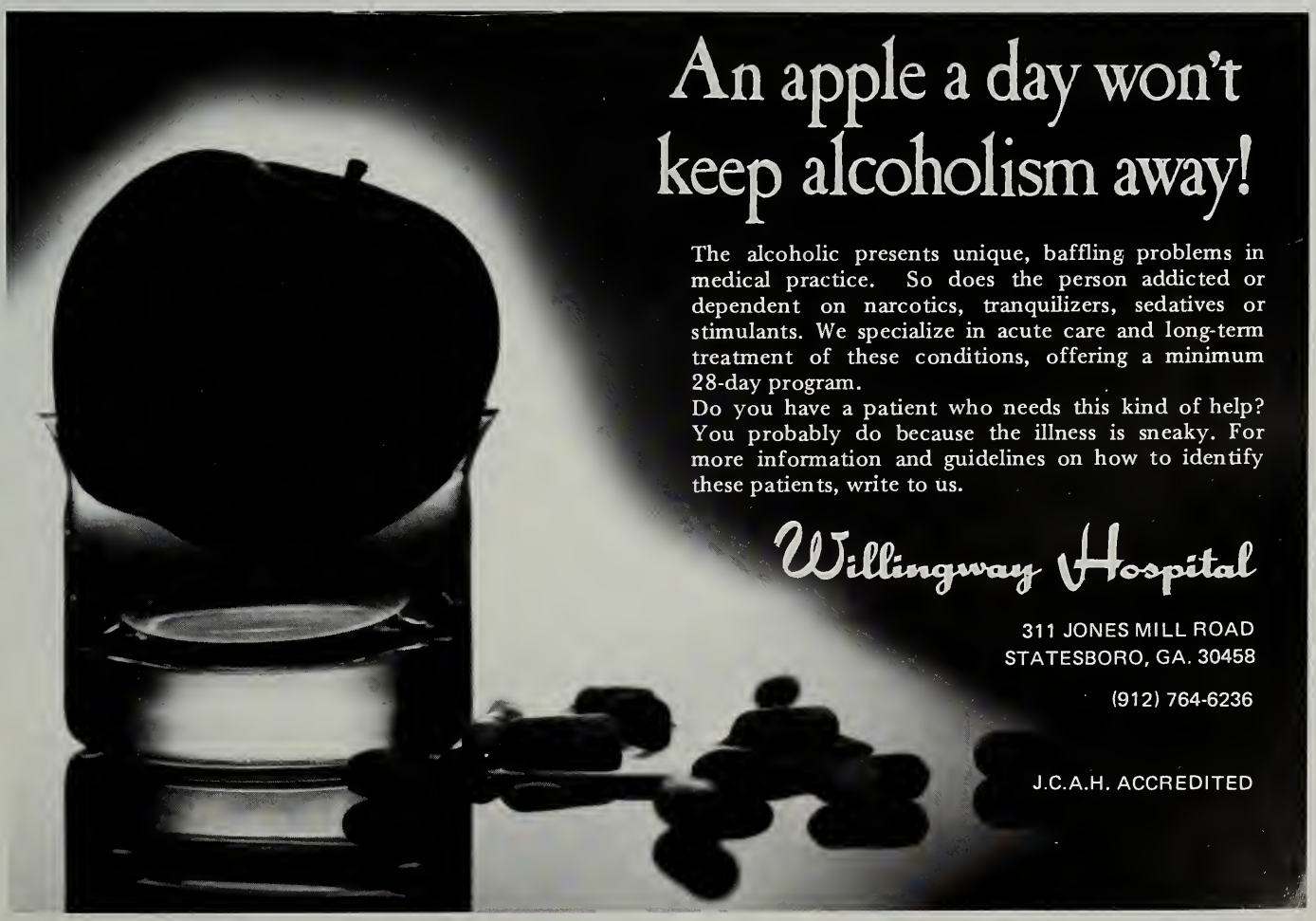

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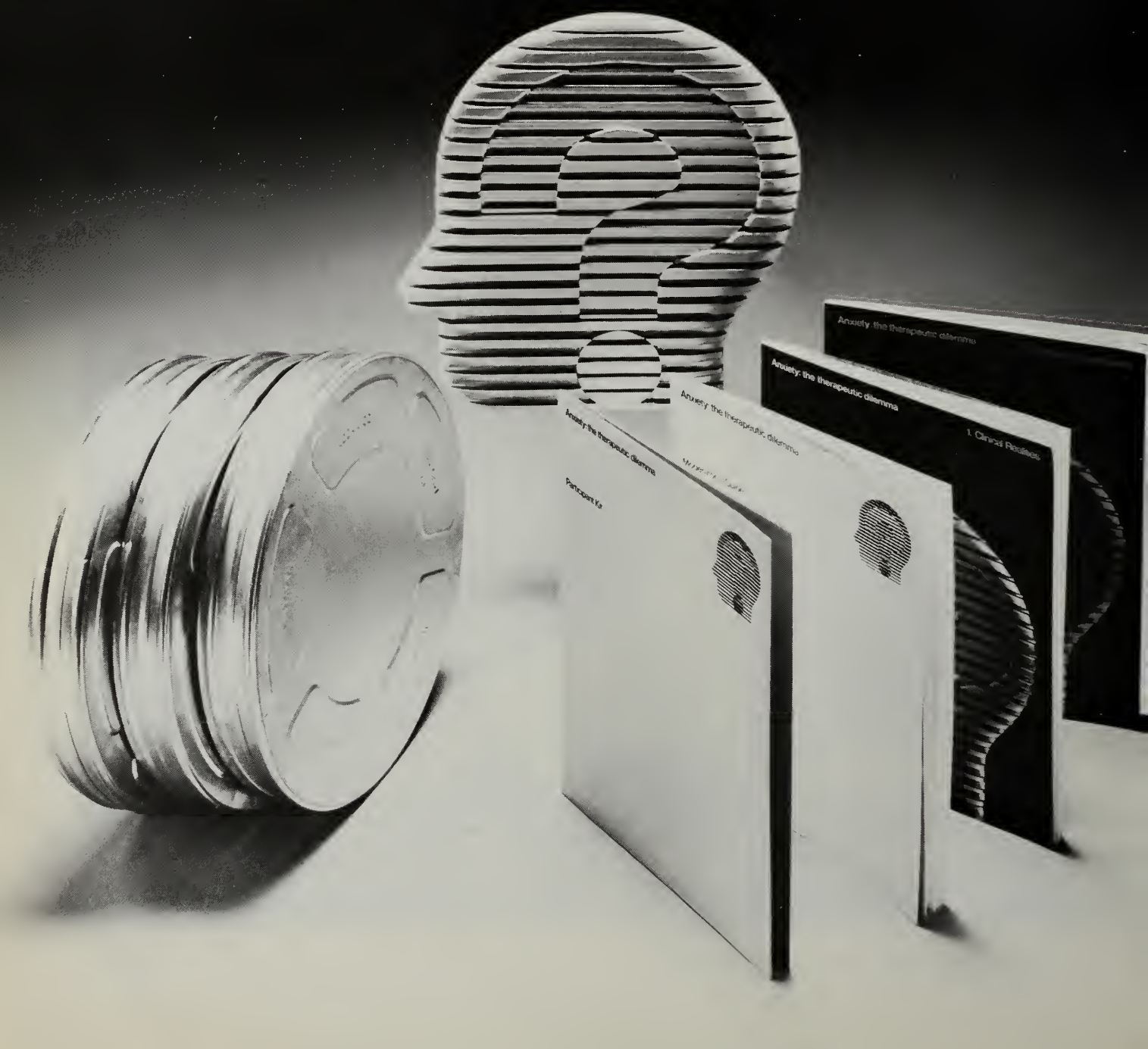

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DELEGATES' REPORT: 1980 INTERIM MEETING OF THE AMA HOUSE OF DELEGATES

C. TUCKER WESTON, M.D.*

The South Carolina Medical Association was well-represented at the Convention of the AMA at the Hilton Hotel in San Francisco, December 5-10, 1980. Attending were: Dr. and Mrs. Halsted M. Stone, Dr. William H. Hunter, Dr. Euta M. Colvin, Dr. C. Tucker Weston, Dr. and Mrs. Waitus Tanner, Dr. and Mrs. John C. Hawk, Jr., Dr. and Mrs. Donald G. Kilgore, Jr., Dr. and Mrs. Kenneth N. Owens, Dr. and Mrs. Leonard Douglas, and Dr. J. Gavin Appleby, along with Mr. Charles Johnson, SCMA Executive Vice President. The members of our delegation were assigned different reference committees and represented SCMA well at these meetings.

The AMA House of Delegates considered 69 reports and 86 resolutions on a broad range of issues.

One delegate commented on the fine quality of the reports submitted to the House, and I believe those sentiments are shared by the majority of the delegates throughout the country. Reports from the Board of Trustees and the AMA Councils are timely and well-researched papers on virtually every item of current interest to the practicing physician.

Buoyed by the results of the national elections, the delegates' mood could be described as optimistic. The House sessions were generally free of controversy as the delegates assumed a "wait and see" attitude in anticipation of the new administration in Washington.

However, the House did come to grips with some major issues of widespread concern to our members. Major issues before the House included: Professional Standards Review Organizations, health planning laws, women physicians in organized medicine, graduate medical education, and membership and finances.

* P. O. Box 706, Columbia, S. C. 29202

PROFESSIONAL STANDARDS REVIEW ORGANIZATIONS

After much discussion and a close vote, the House approved a restated AMA position on PSRO. The shift in policy reflected a strong grassroots dissatisfaction with PSRO and its failure to achieve its stated goals of improving the quality of care. The delegates voted: " . . . to continue professionally directed efforts to ensure that care provided to patients is of high quality, appropriate duration, and rendered in an appropriate setting at a reasonable cost, and to encourage the elimination of all government directed peer review programs including PSRO."

HEALTH PLANNING LAWS

In a similar vein, the delegates stiffened their opposition to federal regulation in health care stemming from Public Law 93-641, the National Health Planning Resources Development Act.

The House took action calling for the AMA to support immediate cessation of funding for the Health Planning Law and cause repeal legislation to be introduced into the next Congress. The AMA will call upon the state medical association for assistance in passing this legislation.

The House also said that HMO's should not be exempted from equal application of the Health Planning Laws. In addition, the policy statement called on the AMA to develop principles for a program of voluntary, locally-based health planning designed to address local needs with local resources.

WOMEN PHYSICIANS IN ORGANIZED MEDICINE

After a year of work, including a comprehensive scientific survey of women physicians' attitudes, the Ad Hoc Committee on Women

Physicians in Organized Medicine submitted its recommendations. The House considered this report along with a Board report that accompanied it.

Among the several recommendations, one calling upon the Association to endorse the Equal Rights Amendment generated the most discussion. The Board's position was opposed to ERA endorsement, saying that this was a political rather than a medical issue. Most House members agreed. However, the members of the Ad Hoc Committee pointed out many times that 85 percent of the women physicians would like for the Association to take this action.

As it turned out, the whole matter was referred back to the Board with the House asking the Trustees to give priority attention to:

1. Employment of a full-time AMA staff person to coordinate activities associated with the special interests and concerns of women physicians.
2. Appointment of a three-year committee to monitor the progress of women's participation in organized medicine.

Another report on these issues will be considered by the House at the 1981 Annual Meeting.

GRADUATE MEDICAL EDUCATION

Responding to a major effort of the Resident Physician Section, the House delayed approval of new guidelines for accrediting graduate medical education. The AMA now represents more than 20,000 resident members.

The Resident Physicians reported that the proposed revision in the *Essentials of Accredited Residencies in Graduate Medical Education* would dilute the original standards and weaken their position in graduate training programs.

The existing *Essentials* — favored by the resident physicians — remain in effect.

The Board of Trustees, dissatisfied with the portion of the revised *Essentials* pertaining to housestaff rights, privileges, and responsibilities, will re-open negotiations with the other parent bodies of the Liaison Committee on Graduate Medical Education (LCGME).

MEMBERSHIP AND FINANCES

The House approved a budget for 1981 with anticipated revenues and expenses of $69 million. Consideration of a dues increase is expected at the 1981 Annual Meeting.

There is a prevailing concern among the delegates that revenues from AMA memberships have not kept pace with the impact of inflation on the Association's expenses. You will recall that consideration of a dues increase was postponed for a year mainly due to effective financial management.

In 1974, the AMA was borrowing about $1 million a month to meet its payroll. Today the AMA has a net worth of $67 million and is, for the moment, in strong financial condition.

All of us need to do more to increase AMA membership. Ask your colleagues if they belong and encourage them to commit themselves to supporting our national association.

Obviously, with so many items of business, we can only touch briefly on a few of major interest. AMA House meetings provide a unique educational opportunity, and I would encourage you to attend and participate. Any member of the Association may present testimony at the Reference Committee hearings and, of course, corridor discussions on the issues provide ample opportunities to get your views across.

If you can't come to the meeting, you can still be represented through your Delegates. Let us know your opinions. You can also prepare a Resolution and request that it be submitted to the House.

Many, many AMA policies began with an individual physician who had a good idea and coaxed it through the Democratic process.

Your SCMA delegation to the AMA appreciates the opportunity of continuing to represent South Carolina physicians on a national level. All of the participants at this meeting submitted written reports on their Reference Committees, but because of space limitations, we were unable to publish them in their entirety. □

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President's Page

SHINE IT UP!

The bleeding hearts of America have taken great delight over the past few years in decimating the American system of medicine and the physicians of America. TV, as well as newspaper and magazines, eloquently informed the American people that what they had was bad and proceeded to tell the people what they should want. Very little good was said about our system and even some physicians began to have doubts. Apparently, the thought was that if something is said often enough, Americans will become aroused and rise up in revolt. Of course, the silence was deafening. The people decided that what they had was great! Why change from something good to something which was only promised to be good? Besides, the money involved would have further bankrupted this country. The people knew that they had the best system of medicine in the world. Chalk one up for the good guys! Our image wasn't really even tarnished, but we must continue to earn the image we now have. We must not sit back and not continue to take a good course.

Recently, with Blake Williams of our staff, I began a corporate visitation plan for the SCMA. We have now visited seven different industries in the Columbia area and have been able to produce several enlightening facts. The most important of these facts is that industry is being flattered that the SCMA is even interested in its problems. Most industries without full time medical departments were on a "go it alone" basis. Problems were solved as best as they could be, but not always satisfactorily for industry, the patients, or physicians.

Problems which have been identified include: (1) Paramedical personnel conducting employment examinations with the person *not* seen by a physician. (2) Paper work not being completed for months after the physician was paid directly by the patient, so that the patient could not be reimbursed. (3) Lack of availability of physicians in some areas or lack of those willing to do industrial practice. (4) Excessive charges by hospital emergency rooms when patients were seen there. (5) Identifying physicians who were reluctant about getting patients back to work after illness or surgery, or who gave prolonged leaves of absence when there was no good medical reason for this. (6) Lack of familiarization by physicians of just what job descriptions called for. (7) Hospitalization policies which are inadequate for outpatient coverage.

Each industry has its own set of problems, and due to the size of the state, the SCMA will need considerable help in going state-wide with this project. Also, because circumstances differ with each county, local input is important. I am, therefore, asking each county medical society to form an Industrial Relations Committee to meet with local leaders of industry. Meetings could be general as a group, or done individually as I have done. The important thing is to open the lines of communication. The SCMA will lend assistance. This will help to shine our image a little brighter, and a service will be provided which was previously unavailable.

Membership in SCMA is ahead of last year. Let's make this our best year ever! Remember . . .

MEMBERSHIP IS UNITY FOR STRENGTH!

HALSTED M. STONE, M.D., *President*

Announcing:

127th Annual Session of the North Carolina Medical Society

May 7-10, 1981

Pinehurst Hotel, Pinehurst, N.C.

Golf and other recreation! Fun! Fellowship!

Plan early to attend by requesting registration information and hotel reservation forms from NCMS, Box 27167, Raleigh, NC 27611. Tel. (919) 833-3836.

HIGHLIGHTS:

- HOUSE OF DELEGATES
  Thursday, May 7—10:00 a.m. (First Session)
  Saturday, May 9—2:00 p.m. (Second Session)
- GENERAL SESSIONS
  Friday, May 8—9:00 a.m.-12:30 p.m.
  Saturday, May 9—9:00 a.m.-12:30 p.m.
- SPECIALTY SECTION MEETINGS
- ALUMNI LUNCHEONS AND DINNERS
- TECHNICAL EXHIBITS
- PRESIDENT'S DINNER AND INSTALLATION OF OFFICERS

CME CREDIT

General Sessions — 6 credit hours — Category I.

Specialty Section Meetings — Hour for hour credit in Category I for scientific portion of the Special Section meetings.

SOUTH CAROLINA MEDICAL ASSOCIATION

AUXILIARY

APRIL 15 — A DAY AT THE LEGISLATURE

If you are in any way associated with the medical profession in the state of South Carolina, then the fifteenth of April is a date you should circle in red on your calendar.

On that Wednesday, the South Carolina Medical Association and its Auxiliary together are sponsoring a *Day at the Legislature*. All members of the SCMA and Auxiliary are urged to come to Columbia for this occasion. It is hoped that some members will plan to spend the entire day, and perhaps have lunch with a legislator.

The major concentration of participation, however, will be on maximum attendance at the afternoon session of the legislature, starting at 2:00 p.m. When this session is finished, all SCMA members, Auxiliary members, and legislators are invited to a reception which will be held at 6:00 p.m. at the Women's Club in Columbia. SCMA is underwriting most of the cost of this reception, but there will be a small charge for members attending. (The legislators will be our guests.)

James Sammons, M.D., executive vice-President of the American Medical Association, has said: "The future relationship of government and medicine is wrapped in uncertainty. We can not predict what this Decade of Decision will end up deciding".

BUT! we can play an important part in the decision-making process. More and more decisions which affect the practice of medicine and define medical care in South Carolina are made in Columbia and not in the physician's office. We must have knowledge of how government works in order to understand the relationships of government and medicine. A visit to the Legislative Chambers on April 15, to watch the legislators in action and then talking with them afterward is our opportunity.

With the commitment of the SCMA and the Auxiliary sponsorship of this *Day at the Legislature*, it is up to us, the members of these organizations, to make this project a success. As you know, many issues involving medicine are due for consideration in this 1981 session, including the composition of the State Board of Medical Examiners. Good personal relationships with our legislators are essential for complete understanding of medical goals in South Carolina, and if you have not yet taken the time to give your ideas to these Senators and Representatives, then April 15 is your day.

Plan to attend!

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THE JOURNAL
OF THE SOUTH CAROLINA MEDICAL ASSOCIATION
VOLUME 77 APRIL 1981 NUMBER 4

ONE HUNDRED THIRTY-THIRD ANNUAL MEETING

THE SHERATON CHARLESTON HOTEL
CHARLESTON, SOUTH CAROLINA

The 133rd Annual Meeting of the South Carolina Medical Association will be held May 13-17, 1981 in Charleston, South Carolina, at the new Sheraton Charleston Hotel, along the Ashley River at 170 Lockwood Drive. AGAIN THIS YEAR, THERE WILL BE NO REGISTRATION FEE FOR SCMA MEMBERS.

The SCMA House of Delegates will meet on Thursday, May 14, 1981, and again on Sunday, May 17, 1981, to conduct the business of the Association, with J. Gavin Appleby, M.D., Speaker of the House, presiding. Present plans call for meetings of Council on Wednesday, May 13 and again at breakfast each day.

The scientific assembly this year promises to be the most extensive ever. The SCMA sponsored general sessions will be held Friday and Saturday mornings on the subjects of "New Diagnostic Techniques" and "Diabetes". Mini-workshops, sponsored by MUSC and the USC School of Medicine, on a wide variety of topics will be held on the campus at MUSC on Wednesday, Thursday, Friday and Saturday afternoons. Elsewhere in this issue is complete information on topics and speakers.

Concurrent meetings and/or workshops will be held by the S. C. District Branch of the American Psychiatric Association, the S. C. Pediatrics Society, the S. C. Society of Pathology, the S. C. Neurosurgical Society, the S. C. Dermatological Society, the S. C. Radiological Society, the S. C. Society of Plastic and Reconstructive Surgeons, the S. C. Society of Anesthesiologists, the S. C. Chapter, American College of Emergency Physicians, and the S. C. Medical Directors' Association.

Special events include fun runs scheduled for Friday and Saturday mornings, a golf tournament sponsored by Meade Johnson, a President's Luncheon and Reception, and an Antebellum Plantation Feast, sponsored by SCMA and SOCPAC. The SCMA Auxiliary has many special functions planned, including tours of Charleston and various children's activities.

New this year will be financial planning workshops conducted by the E. F. Hutton Company, as well as two programs on computers in medical practice. Several MUSC and Duke Medical School alumni groups have scheduled receptions or luncheons.

The 1981 SCMA Annual Meeting and Scientific Assembly represents a considerable change from previous SCMA Annual Meetings. It is hoped that through these changes, something of interest is provided for all South Carolina physicians, along with a location and activities that can be enjoyed by others who might be attending the meeting.

Included in this issue of *The Journal* are those committee reports, Resolutions and reports of officers and councilors which were available at publication deadline. Additional reports received after the deadline will be included in the Delegates' Handbooks.

133rd SOUTH CAROLINA MEDICAL ASSOCIATION ANNUAL MEETING

THE CHARLESTON SHERATON, CHARLESTON, SOUTH CAROLINA MAY 13-17, 1981

GENERAL PROGRAM

	Wednesday, May 13, 1981
8:30 a.m. - 9:30 a.m.	SCMA Council Breakfast — Palmetto State Room 213
9:30 a.m. - 5:00 p.m.	SCMA Council Meeting — Cotillion A
12:30 p.m. - 7:00 p.m.	SCMA Registration Open — Citadel Ballroom
1:00 p.m. - 5:00 p.m.	Board of Medical Examiners Hearings — Palmetto State Room 213
2:30 p.m. - 4:30 p.m.	SCMA Scientific Assembly Workshops (See Scientific Assembly Agenda for Topics and Speakers) — MUSC
	Thursday, May 14, 1981
7:30 a.m. - 8:30 a.m.	SCMA Council Breakfast — Palmetto State Room 213
8:00 a.m. - 5:00 p.m.	SCMA Registration Open — Citadel Ballroom
8:30 a.m. - 11:30 a.m.	SCMA House of Delegates — Cotillion Ballroom B & C
9:00 a.m. - 12:30 p.m.	Board of Medical Examiners Board Meeting — Little David Room 225
12:30 p.m. - 1:30 p.m.	SCMA Reference Committee Chairmen's Luncheon — Crystal Room
12:30 p.m. - 2:00 p.m.	Board of Medical Examiners Luncheon — Dining Room
12:30 p.m. - 2:00 p.m.	MUSC Alumni Luncheon — Cotillion A & B
2:00 p.m. - 6:00 p.m.	SCMA Reference Committee Meetings [Cotillion B & C, Rooms 209, 213, 216, 229, 223] — [Specific room assignments will appear in Delegates' Handbook]
2:00 p.m. - 5:00 p.m.	Board of Medical Examiners Workshop — Little David Room
2:00 p.m. - 4:00 p.m.	Meet the Professor — Peter C. Gazes, M.D. — Charleston Room 220
2:30 p.m. - 4:30 p.m.	SCMA Scientific Assembly Workshops (See Scientific Assembly Agenda) — MUSC
6:00 p.m. - 8:00 p.m.	Duke University Medical School Alumni Reception — Palmetto State Room 213
7:30 p.m. - 9:30 p.m.	Class of March, 1946 35th Reunion — Wickliff House — MUSC
	Friday, May 15, 1981
7:00 a.m.	Fun Run — Hotel Jogging Track
7:30 a.m. - 8:30 a.m.	SCMA Council Breakfast — Palmetto State Room 213
8:00 a.m. - 5:00 p.m.	SCMA Registration Open — Citadel Ballroom
8:30 a.m. - 12:30 p.m.	SCMA Scientific Assembly "New Diagnostic Techniques" [See Scientific Assembly Agenda for speakers and topics] — Cotillion B & C
10:00 a.m. - 10:30 a.m.	SCMA Scientific Assembly Break — Visit Exhibits — Peacock Promenade and Citadel Ballrooms
12:30 p.m. - 4:00 p.m.	S. C. Chapter, American College of Emergency Physicians — Defense Room 216
1:00 p.m. - 6:00 p.m.	S. C. District Branch — American Psychiatric Assoc. Scientific Workshop — MUSC
1:00 p.m. - 2:30 p.m.	SCMA Journal Editorial Board Luncheon — Little David 225

GENERAL PROGRAM

1:00 p.m. - 5:00 p.m.	S. C. Pediatrics Society Meeting — Decatur Room 209
1:00 p.m.	Mead Johnson Golf Tournament — Isle of Palms Beach and Racquet Club
1:30 p.m. - 5:00 p.m.	S. C. Society of Pathology Scientific Workshop — MUSC
2:00 p.m. - 2:45 p.m.	E. F. Hutton Financial Planning Program "The Need for Financial Planning" — Palmetto State Room 213
2:30 p.m. - 4:00 p.m.	Meet the Professor — Roy Altman, M.D. — Charleston Room 220
2:30 p.m. - 4:30 p.m.	SCMA Scientific Assembly Workshops — MUSC
2:30 p.m. - 4:00 p.m.	Computer Applications in Medical Practice — Stephen C. Lloyd, M.D. — Defense Room 216
3:00 p.m. - 3:45 p.m.	E. F. Hutton Financial Planning Program "The Retirement Program Maze" — Palmetto State Room 213
4:00 p.m. - 4:45 p.m.	E. F. Hutton Financial Planning Program "Tax Shelters and You" — Palmetto State Room 213
6:30 p.m. - 8:00 p.m.	S. C. Dermatological Society Reception — Charleston Room 220
7:00 p.m. - 8:00 p.m.	SCMA Reception — Peacock Promenade
8:00 p.m. - 10:00 p.m.	Antebellum Plantation Feast Sponsored by SOCPAC — Cotillion A, B, C
	Saturday, May 16, 1981
7:00 a.m.	Fun Run — Brittlebank Park
7:30 a.m. - 8:30 a.m.	SCMA Council Breakfast — Palmetto State Room 213
8:00 a.m. - 5:00 p.m.	SCMA Registration Open — Citadel Ballroom
8:00 a.m. - 9:30 a.m.	S. C. Neurosurgical Society Breakfast Business Meeting — Hunley Room 223
8:00 a.m. - 12:00 Noon	S. C. Dermatological Society Meeting — Charleston Room 220
8:30 a.m. - 1:00 p.m.	S. C. District Branch — American Psychiatric Assoc. Workshop — MUSC
8:30 a.m. - 12:00 Noon	S. C. Society of Pathologists — Decatur Room
8:30 a.m. - 11:30 a.m.	SCMA Scientific Assembly "Diabetes" [See Scientific Assembly Agenda for speakers and topics] — Cotillion B & C
9:30 a.m. - 12:00 Noon	S. C. Radiological Society Scientific Session — Little David Room 225
10:00 a.m. - 10:30 a.m.	SCMA Scientific Assembly Break — Visit Exhibits — Peacock Promenade and Citadel Ballrooms
12:00 Noon - 12:30 p.m.	S. C. Radiological Society Pre-Luncheon Cocktails — Prosper Room 229
12:30 p.m. - 2:00 p.m.	SCMA President's Luncheon — Cotillion A & B
12:30 p.m. - 2:00 p.m.	S. C. Radiological Society Luncheon — Palmetto State Room 213
1:00 p.m. - 4:00 p.m.	Plastic & Reconstructive Surgeons Luncheon & Business Meeting — Defense Room 216
1:00 p.m. - 4:00 p.m.	Plastic & Reconstructive Surgeons Business Managers — Luncheon & Business Meeting — Hunley Room 223
1:30 p.m.	S. C. Soc. of Anesthesiologists Mtg. — Room 100, MUSC Admin. Bldg.
2:00 p.m. - 4:30 p.m.	S. C. Dermatological Society Meeting — Charleston Room 220
2:30 p.m. - 4:30 p.m.	Carolina Hospital & Health Services Workshop "Physician's Office Computer Systems: The Pros and Cons" — Little David Room 225
2:30 p.m. - 4:30 p.m.	SCMA Scientific Assembly Workshops — MUSC
5:00 p.m. - 7:00 p.m.	S. C. Society of Pathologists Hospitality Suite Open — To be announced
6:30 p.m. - 7:30 p.m.	SCMA President's Reception — Cotillion A & B (Poolside)
7:00 p.m.	MUSC Class Reunions — Years of '31, '36 and '41 — Citadel A & B and 2nd
8:00 Dinner	Floor Suites
	Sunday, May 17, 1981
7:00 a.m. - 8:00 a.m.	SCMA Council Breakfast — Palmetto State Room 213
8:00 a.m. - 12:00 Noon	SCMA House of Delegates — Cotillion B & C
8:00 a.m. - 10:00 a.m.	SCMA Registration — Peacock Promenade
8:30 a.m. - 12:00 Noon	Geriatric-Cardiology, 1981 — Citadel Ballroom

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- **100% cure rate with Tegopen®** (cloxacillin sodium)
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After one week of penicillin V-K therapy

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Treatment failure was judged to have occurred when lesions increased in size and/or number during the initial week of treatment with penicillin V-K. *No* treatment failures occurred with Tegopen.

*Data on file, Bristol Laboratories.

Brief Summary of Prescribing Information

TEGOPEN®
(cloxacillin sodium)
Capsules and Oral Solution

For complete information, consult Official Package Circular. (12) 9/11/75

INDICATIONS:

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

IMPORTANT NOTE

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

CONTRAINDICATIONS:

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

RESULTS OF ORAL THERAPY revealed a high percentage of treatment failures with penicillin V potassium, but *no* failures with Tegopen.

		Given Tegopen® (*cloxacillin sodium*)	Given *penicillin V-K*
Staphylococcus aureus	(78 patients)	39	39
Returned to clinic at one week		29†	38†
Treatment failure at one week		0	18 (47.4%)
Staphylococcus aureus and *Streptococcus pyogenes*	(9 patients)	4	5
Returned to clinic at one week		4	5
Treatment failure at one week		0	2 (40%)
No initial bacterial growth	(14 patients)	9	5
All 14 healed, regardless of which antibiotic was administered.			
Beta-hemolytic *Streptococcus*	(1 patient)	0	1
TOTALS:	**102 patients**	**52 patients**	**50 patients**

†Eleven patients did not return for their one-week checkup. These were all called by telephone, and their families reported the lesions had healed. One patient was dropped from the study, early, because of adverse reaction to medication.

STUDY: DESCRIPTION/PROTOCOL

- 102 nonselected subjects, with initial bacteriology as follows: 77% *Staphylococcus aureus*, 9% mixed *Staphylococcus aureus* and *Streptococcus pyogenes*, and 1% beta-hemolytic *Streptococcus*.‡
- All patients were given randomized therapy—Tegopen capsules or oral solution, or penicillin V-K tablets or oral solution, in recommended dosages according to body weight.
- All patients were evaluated after one week's therapy. If there was no improvement, therapy was switched to the other antibiotic. The "other antibiotic" proved to be Tegopen 100% of the time because no treatment failures had occurred with Tegopen.
- A final assessment of progress was made two weeks after initiation of Tegopen therapy.

‡The remainder, to equal 100%, consisted of 14 patients (13%) who exhibited no initial bacterial growth. These 14 were all healed, whether given Tegopen or penicillin V-K.

TEGOPEN®
(cloxacillin sodium)
–effective therapy for staph infections of the skin and skin structures

WARNING:

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

Safety for use in pregnancy has not been established.

PRECAUTIONS:

The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

ADVERSE REACTIONS:

Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

USUAL DOSAGE:

Adults: 250 mg. q.6h.

Children: 50 mg./Kg./day in equally divided doses q.6h. Children weighing more than 20 Kg. should be given the adult dose. Administer on empty stomach for maximum absorption.

N.B.: INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.

SUPPLIED:

Capsules—250 mg. in bottles of 100. 500 mg. in bottles of 100.
Oral Solution—125 mg./5 ml. in 100 ml. and 200 ml. bottles.

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DELEGATES AND ALTERNATES, 1981

ABBEVILLE	Grady Oliver, M.D.
AIKEN	Jack L. Ratliff, M.D.
	W. Thomas Robinson, M.D.
	William L. Meehan, M.D.
ALLENDALE	NOT AVAILABLE AT PRESS TIME
ANDERSON	John B. Martin, Jr., M.D.
	Vernon E. Merchant, Jr., M.D.
	Jerry R. Powell, M.D.
	Kenneth W. Smith, M.D.
	DeWitt C. Niles, M.D.
	Charles R. Griffin, M.D.
	Edward C. Mattison, M.D.
Alternates:	O. Marion Burton, M.D.
	James G. Halford, Jr., M.D.
	Walter L. Gaillard, M.D.
	Bill R. Ewing, M.D.
	Thomas A. Colling, M.D.
	M. Ray Gillespie, M.D.
	Fred G. Jones, M.D.
BAMBERG	A. H. Moskow, M.D.
BARNWELL	George Holman, M.D.
Alternate:	Campbell C. Freeman, M.D.
BEAUFORT	Sol Neidich, M.D.
	Ernest Collins, M.D.
BERKELEY	Rhett Myers, M.D.
Alternate:	John H. Swicord, M.D.
CHARLESTON	H. Biemann Othersen, Jr., M.D.
	Albert F. Aiken, M.D.
	Walton L. Ector, M.D.
	Thomas A. Kirkland, M.D.
	James T. Richards, M.D.
	Robert S. Cathcart, III, M.D.
	Charles C. Geer, M.D.
	William Fogle, M.D.
	Leon Banov, Jr., M.D.
	W. Bonner Thomason, M.D.
	Roy E. Nickles, M.D.
	W. McGill Woodward, M.D.
	Arthur C. Hutson, Jr., M.D.
	Grant Patton, M.D.
	James Purcell, M.D.
	Daniel Ravenel, M.D.
	Dowse Rustin, M.D.
	Richard E. Ulmer, M.D.
Alternates:	William H. Barnwell, M.D.
	William B. Crymes, M.D.
	Albert Kreutner, M.D.
	Philip A. McGowan, M.D.
	William R. Turner, M.D.
	Kenneth R. Warrick, M.D.
	John Abess, M.D.
	R. Maxwell Anderson, M.D.
	William Crouch, M.D.
	Charles P. Darby, M.D.
	George G. Durst, Jr., M.D.
	David Egleston, M.D.
	James Folk, M.D.
CHEROKEE	John H. Cathcart, M.D.
Alternate:	William K. Brumbach, M.D.
CHESTER	Malcolm L. Marion, M.D.
Alternate:	Edwin C. Hentz, M.D.
CHESTERFIELD	James P. Weaver, M.D.
Alternate:	Winston Godwin, M.D.
COLLETON	John B. Johnston, M.D.
Alternate:	J. Rutherford Smith, M.D.
COLUMBIA	Walter J. Roberts, Jr., M.D.
	James C. Vardell, Jr., M.D.
	Philip W. Fairey, Jr., M.D.
	Ralph S. Owings, M.D.
	Edmund R. Taylor, M.D.
	Hal H. Crosswell, M.D.
	Hugh H. DuBose, M.D.
	Edward E. Kimbrough, M.D.
	John P. Sutton, M.D.
	E. Cantey Haile, Jr., M.D.
	Thomas C. Rowland, M.D.
	J. Daniel Love, M.D.
	William D. Meredith, M.D.
	M. Tucker Laffitte, M.D.
	Thomas W. Messervey, M.D.
	Paul T. Hopkins, M.D.
	Alexander G. Donald, M.D.
	William F. Luce, M.D.
	Jack L. Shelburg, M.D.
Alternates:	Everett L. Dargan, M.D.
	Robert J. McCardle, M.D.
	Robert H. Stafford, M.D.
DARLINGTON	W. Rion Dixon, M.D.
	Gregory S. Connor, M.D.
Alternate:	James McInnis, M.D.
DILLON	Lewis Reese, M.D.
Alternate:	Susanne Black, M.D.
DORCHESTER	Anthony M. Moser, M.D.
	Joseph C. Moore, M.D.
Alternates:	John Sanders, M.D.
	C. William Wimberly, M.D.
EDISTO-	Marshall S. Funderburk, Jr., M.D.
ORANGEBURG	Jerome B. Degen, M.D.
	Donald K. Dudderar, M.D.
Alternates:	James L. Wells, Jr., M.D.
	Jack F. Johnson, Jr., M.D.
FAIRFIELD	B. Alexander Cothran, Jr., M.D.
FLORENCE	William Hester, M.D.
	Bruce White, M.D.
	Larry Rabon, M.D.
	Hans Habermeier, M.D.
	Marion Carr, Jr., M.D.
Alternates:	Alva Whitehead, M.D.
	Frank Boysia, M.D.
GEORGETOWN	Harry Tiller, M.D.
	Michael Reed, M.D.
Alternates:	George Blalock, M.D.
	Cliff Thompson, M.D.
GREENVILLE	Woodrow Long, M.D.
	James McNamara, M.D.

	Wallace Fridy, M.D.
	Thomas Mann, M.D.
	C. D. Bessinger, Jr., M.D.
	Wayne Brady, M.D.
	William Bannen, M.D.
	Michael Hoffman, M.D.
	Lyn Hammond, M.D.
	Clark Collins, M.D.
	E. D. Jervey, M.D.
	William Hines, M.D.
	Lawrence Bellew, M.D.
	Lucius Cline, M.D.
	Steven Gold, M.D.
	Robert Mahon, M.D.
Alternates:	J. Ernest Lathem, M.D.
	Raymond C. Ramage, M.D.
GREENWOOD	Richard M. Carter, M.D.
	Richard H. Goodwin, Jr., M.D.
	Kenneth J. Parham, Jr., M.D.
	John R. Scott, M.D.
Alternates:	R. Brooks Scurry, Jr., M.D.
	Dennis J. Doud, M.D.
HAMPTON	Count Pulaski, M.D.
Alternate:	Walter L. Young, M.D.
HORRY	Salvador Rini, M.D.
	William H. Davis, M.D.
	Charles Sasser, M.D.
	John D. Gilland, M.D.
Alternates:	Jim Craigie, M.D.
	Eston Williams, Jr., M.D.
JASPER	J. M. Bennett, Jr., M.D.
KERSHAW	NOT AVAILABLE AT PRESS TIME
LANCASTER	
Alternates	
LAURENS	Martin Teague, M.D.
Alternate:	James L. Walker, M.D.
LEXINGTON	Henry Martin, Jr., M.D.
	Charles F. Crews, M.D.
	F. J. McElveen, M.D.
Alternates:	F. W. Clementz, M.D.
	Vasa Cate, M.D.
	Bryan L. Walker, M.D.
MARION	Ira Barth, M.D.
	Kamal S. Basily, M.D.
MARLBORO	James C. McAlpine, M.D.
NEWBERRY	Carroll A. Pinner, III, M.D.
	Robert E. Livingston, III, M.D.
Alternate:	Ralph P. Baker, M.D.
OCONEE	J. R. Hanahan, Jr., M.D.
	J. R. Pruitt, M.D.
PICKENS	
Alternates:	
RIDGE	George L. Rainsford, M.D.
Alternate:	W. Hugh Morgan, M.D.
SPARTANBURG	James Duncan, M.D.
	Ron Terrell, M.D.
	Brownlee Lowry, M.D.
	Mitchell Allen, M.D.
	William Hendrix, M.D.
	Frederick G. Phillips, M.D.
	Ray Henderson, M.D.
	Bob Taylor, M.D.
	Craig Evans, M.D.
	Jack Evans, M.D.
	John Simmons, M.D.
Alternates:	Donald McClure, M.D.
	William Elston, M.D.
	Richard Wilson, M.D.
SUMTER-CLARENDON-LEE	J. Capers Hiott, M.D.
	Clarence Coker, Jr., M.D.
	Allan P. Bruner, M.D.
	S. Perry Davis, M.D.
UNION	Harold P. Hope, M.D.
Alternate:	Gerald Fielder, M.D.
YORK	Albert G. LeRoy, M.D.
	James L. Maynard, M.D.
	Howard Snyder, M.D.
Alternates:	L. D. Bartel, M.D.
	James E. Reinhardt, Jr., M.D.
	Hubert O. Platt, M.D.
WILLIAMSBURG	Howard H. Poston, Jr., M.D.
Alternate:	Flournoy C. Walker, III, M.D.

S. C. CARDIAC & THORACIC SURGICAL SOCIETY
Robert M. Sade, M.D.
Alternate: Dieter Voegele, M.D.

S. C. DERMATOLOGICAL ASSOCIATION
Kenneth Warrick
Alternate: Kathleen Riley, M.D.

S. C. ACADEMY OF FAMILY PHYSICIANS
Granville S. Way, Jr., M.D.
Alternate: Daniel W. Brake, M.D.

RADIOLOGY SOCIETY
Frederick G. Phillips, M.D.
Alternate: Woodrow Sanford, M.D.

S. C. CHAPTER OF AMERICAN ACADEMY OF PEDIATRICS AND S. C. PEDIATRIC SOCIETY
Arno R. Hohn, M.D.
Alternate: Charles P. Darby, M.D.

S. C. DISTRICT BRANCH OF THE AMERICAN PSYCHIATRIC ASSOC.
R. Bruce Ford, M.D.

S. C. SOCIETY OF PATHOLOGISTS
William F. Fairey, M.D.
Alternate: Forde A. McIver, M.D.

S. C. SOCIETY OF OPHTHALMOLOGY
Philip McGowan, M.D.
Alternate: William J. Fogle, M.D.

S. C. ORTHOPAEDIC ASSOCIATION
Lawrence McManus, M.D.
Alternate: J. Lorin Mason, M.D.

S. C. UROLOGICAL ASSOCIATION
J. Ernest Lathem, M.D.
Alternate: Sykes H. Dehart, M.D.

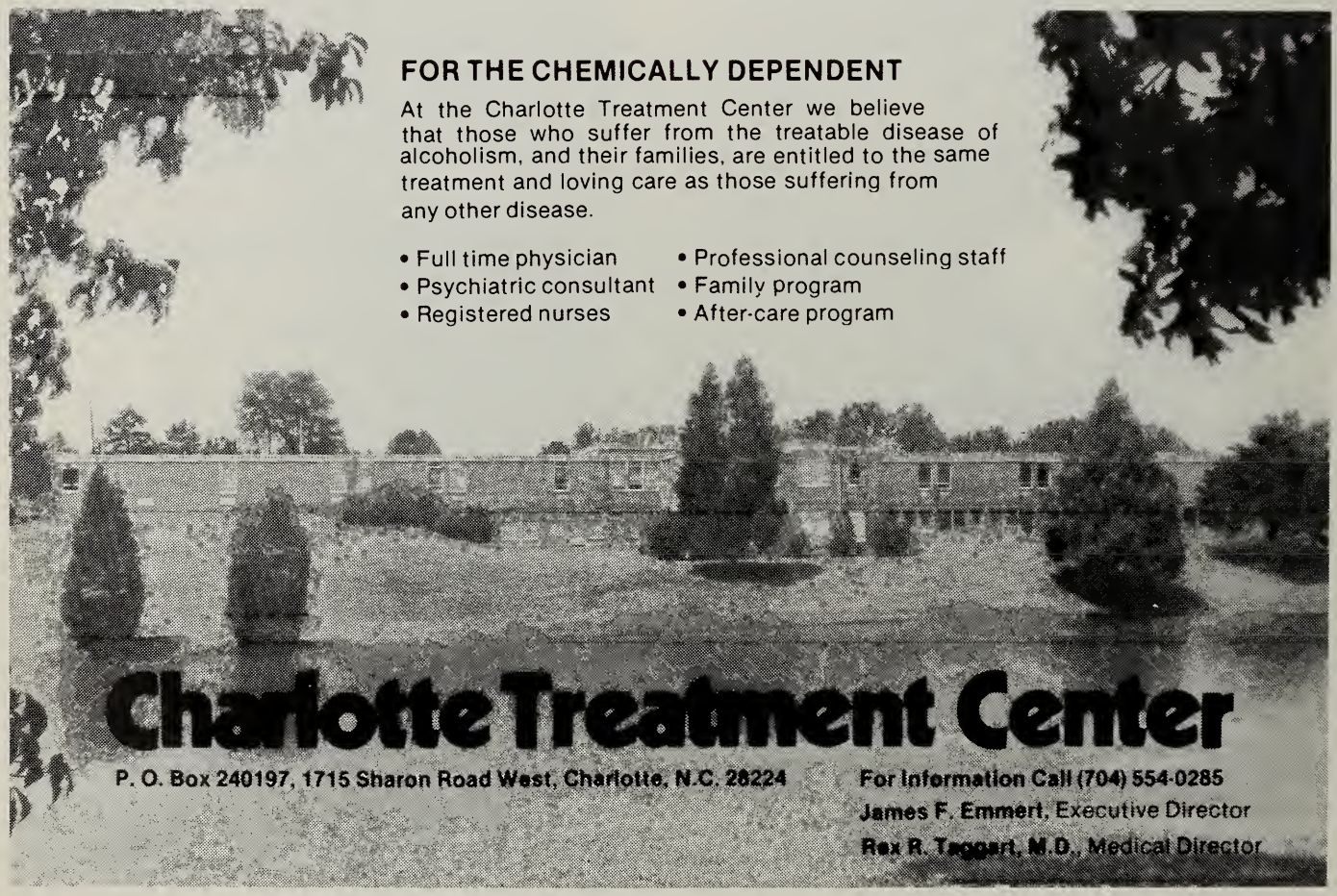
AMERICAN COLLEGE OF EMERGENCY PHYSICIANS, S. C. CHAPTER
Robert Malanuk, M.D.
Alternate: M. F. McFarland, III, M.D.

S. C. SOCIETY OF ANESTHESIOLOGISTS
Laurie L. Brown, M.D.

S. C. SURGICAL SOCIETY
James C. Hughes, III, M.D.

S. C. SOCIETY OF PLASTIC & RECONSTRUCTIVE SURGERY
Burwell R. Smith, IV, M.D.
Alternate: Jon I. Sattler, M.D.
S. C. OB/GYN SOCIETY
M. Tucker Laffitte, M.D.
INTERNAL MEDICINE SOCIETY
James M. Hayes, M.D.
Alternate: Francis G. Middleton, M.D.
ENT SOCIETY
A. Frank Weir, Jr., M.D.
S. C. NEUROLOGICAL SOCIETY
Gordon T. Wannamaker, M.D.
Alternate: Ottis M. Ballinger, M.D.
S. C. VASCULAR SURGICAL SOCIETY
Daniel W. Davis, Jr., M.D.
Alternate: Everett L. Dargan, M.D.
S. C. SOCIETY FOR ALLERGY & CLINICAL IMMUNOLOGY
William B. Gamble, Jr., M.D.
Alternate: C. Allen Bruce, M.D.
S. C. CHAPTER, AMERICAN COLLEGE OF SURGEONS
Robert S. Cathcart, III, M.D.
S. C. NEUROLOGICAL ASSOCIATION
W. Donald Hiers, M.D.
Alternate: Gilbert F. Young, M.D.
COMPONENT UNIT ON HOUSESTAFF PHYSICIANS
J. Stewart Haskin, M.D.
Michael A. Hall, M.D.

MEDICAL UNIVERSITY OF SOUTH CAROLINA, DEAN COLLEGE OF MEDICINE
W. Marcus Newberry, M.D.
UNIVERSITY OF SOUTH CAROLINA, DEAN SCHOOL OF MEDICINE
Roderick Macdonald, M.D.
MUSC SENIOR CLASS PRESIDENT (COLLEGE OF MEDICINE)
Mr. Clarence Davis
USC SENIOR CLASS PRESIDENT (SCHOOL OF MEDICINE)
Mr. William A. Newton
PARLIAMENTARIAN
Forde A. McIver, M.D.
SPEAKER
J. Gavin Appleby, M.D.
VICE-SPEAKER
Hugh H. Wells, M.D.
TWO IMMEDIATE PAST PRESIDENTS
Harrison L. Peeples, M.D.
John C. Hawk, Jr., M.D.
PHYSICIAN MEMBER OF BOARD OF DHEC
J. Lorin Mason, Jr., M.D.
PRESIDENT OF BOARD OF MEDICAL EXAMINERS
Charles W. Brice, Jr., M.D.
AMA DELEGATES AND ALTERNATE DELEGATES
C. Tucker Weston, M.D.
Waitus O. Tanner, M.D.
John C. Hawk, Jr., M.D.
Donald G. Kilgore, Jr., M.D.



The South Carolina Medical Association

GENERAL SCIENTIFIC PROGRAM

Cotillion B & C
The Charleston Sheraton

FRIDAY, MAY 15, 1981 (4 Hours CME Credit)
NEW DIAGNOSTIC/THERAPEUTIC TECHNIQUES
Moderator — H. Biemann Othersen, M.D.

8:30 a.m. - 9:00 a.m.	Nuclear Cardiology, *Grady H. Hendrix, M.D.*, MUSC
9:00 a.m. - 9:30 a.m.	CT Scanning of the Brain, *Guy T. Ellis, III, M.D.*, Florence
9:30 a.m. - 10:00 a.m.	Non-Invasive Vascular Diagnosis, *William A. Holloway, M.D.*, Greenwood
10:00 a.m. - 10:30 a.m.	Coffee Break and Visit Exhibits
10:30 a.m. - 11:15 a.m.	Modern Day Arthroscopy for Diagnosis and Surgery, *Roy Altman, M.D.*, Dept. of Medicine, University of Miami
11:15 a.m. - 12:15 p.m.	Balloon Angioplasty-Coronary & Peripheral, *Spencer B. King, III, M.D.*, Dept. of Cardiology, *Peter Sones, M.D.*, Dept. of Radiology, Emory University
12:15 p.m. - 12:45 p.m.	South Carolina's Medical Heritage, *H. Biemann Othersen, M.D.*

SATURDAY, MAY 16, 1981 (3 Hours CME Credit)
DIABETES
Moderator — John A. Colwell, M.D.

8:30 a.m. - 9:15 a.m.	Pathophysiology/Classification, *Jerome M. Feldman, M.D.*, Duke University
9:15 a.m. - 10:00 a.m.	Management, *Thomas G. Skillman, M.D.*, Ohio State University
10:00 a.m. - 10:30 a.m.	Coffee Break & Visit Exhibits
10:30 a.m. - 11:00 a.m.	The Pregnant Diabetic, *Kay McFarland, M.D.*, USC
11:00 a.m. - 11:30 a.m.	The Eye and Diabetes, *Jerre Chambers, M.D.*, MUSC
11:30 a.m. - 12:00 noon	Panel Discussion, *John Colwell, M.D.*, MUSC

STATEWIDE CLOSED CIRCUIT BROADCASTS

Plans are underway to televise both general scientific sessions live throughout South Carolina via the Health Communications Network of the MUSC Division of Continuing Education. A variety of pretaped CME programs and special announcements/agenda changes will also be broadcast each morning and evening on the hotel's closed circuit television system, including the videorecordings of the general sessions. For information concerning the 31 hospital viewing sites throughout South Carolina, please call Ms. Sheila Johnston (MUSC) at 1-800-922-2282.

NOTE: Admission to the above listed scientific programs will be by SCMA registration badge only.

SPECIALTY WORKSHOPS AT MUSC

WEDNESDAY, MAY 13, 1981 2:30 p.m. - 4:30 p.m.

Cost Effective Work-Up of Anemia, *Paul I. Liu, M.D.*, MUSC, *Michael J. Teaford, M.D.*, MUSC

Evaluation of Patient with Arthritis, *E. C. Leroy, M.D.*, MUSC

Echocardiography-Adult Case Presentation, *Bruce W. Usher, M.D.*, MUSC

Contraception Update, *H. Oliver Williamson, M.D.*, MUSC

Update on Care of the Newborn, *Terry A. Marshall, M.D.*, USC, *Richard K. Harding, M.D.*, USC, *Jerald K. Berkowitz, M.D.*, USC, *Tom L. Austin, M.D.*, USC

Practical Aspects of Marriage Counseling, *J. Richard Sosnowski, M.D.*, MUSC

Preparing for Board Re-certification Exam, *John B. Corley, M.D.*, MUSC

Clinical Nurse Specialists-Members of the Health Team, *Eleanor D. Garvin, R.N., M.A.*, MUSC

Physicians' Assistants in Primary Care, *Rowena Sobczyk, M.D.*, MUSC

THURSDAY, MAY 14, 1981 2:30 p.m. - 4:30 p.m.

Cost Effective Work-Up of Bleeding Problems, *Paul I. Liu, M.D.*, MUSC, *Lynn Crook, M.D.*, V.A. Hospital

Neuromuscular Diseases-Selective Cases, *Edward L. Hogan, M.D.*, MUSC, *John A. Gross, M.D.*, MUSC

Practical Pediatric Cardiology, *Arno R. Hohn, M.D.*, MUSC, *Donald A. Riopel, M.D.*, MUSC, *Ashby Taylor, M.D.*, MUSC

Significance of Normal, Abnormal Pap Smears, *William C. Wilson, M.D.*, MUSC

Dermatology-A Clinical Case Presentation, *Richard L. Dobson, M.D.*, MUSC

Religious-Ethical Conflicts in Medicine, *Reverend Albert Keller, Jr.*, MUSC

Liver Disease, Current Status of Shunt Surgery, *Joseph Ansley, M.D.*, V.A. Hospital

Management of Ascites, *Harry H. LeVeen, M.D.*, MUSC

Jaundice in the Newborn, *Charles D. Smith, M.D.*, MUSC

Advances in Reconstructive Surgery, *Richard A. Levine, M.D.*, DDS, MUSC

FRIDAY, MAY 15, 1981 2:30 p.m. - 4:30 p.m.

Blood & Component Transfusion Update, *Armand B. Glassman, M.D.*, MUSC, *Michael J. Teaford, M.D.*, MUSC

Metabolism-Nutrition — Case Presentations and Discussions, *John Colwell, M.D.*, MUSC

Valvular Heart Disease-Surgical Management, *Fred A. Crawford, Jr., M.D.*, MUSC

Induction of Labor, *Edgar O. Horger, III, M.D.*, MUSC

Current Topics in Nephrology, *Newton C. Brackett, Jr., M.D.*, MUSC, *Arthur Williams, M.D.*, MUSC

Monitoring the Critically Ill-Management of Comas, *Joseph S. Redding, M.D.*

PHACO Emulsification & Shearing Intraocular Lens. Indications, Contraindications, Complications. A Scan Measurement for Lens Power, *Ophthalmology Faculty*, MUSC

SATURDAY, MAY 16, 1981 2:30 p.m. - 4:30 p.m.

Comprehensive Review of the Use of Antipsychotic Drugs, *Charles H. Ham, Jr., M.D.*, USC

Cardiology Clinics, Diagnostic & Prognostic Value of Exercise Stress Tests, *Donald Saunders, M.D.*, USC, *Christie Hopkins, M.D.*, USC.

Functional & Prognostic Evaluations of MI Patients before Discharge, *J. O'Neal Humphries, M.D.*, USC

Clinical Pharmacology & Cardiac Drugs, *David Propert, M.D.*, USC

ENT Mini-Workshops, *Warren Y. Adkins, M.D.*, MUSC

Low Dose Insulin in Diabetic Ketoacidosis: Growth & Related Disorders, *Alva Strickland, M.D.*, MUSC

Medical Use of Ionizing Radiation-Determination of Risk, *David Adcock, M.D.*, USC, *Bernard W. Graham, Ph.D.*, USC

NOTE: Admission to the above listed workshops will be by appropriate ticket only.
Complimentary Bus Transportation Will Be Provided to & from MUSC.
CME credits on an hour for hour basis.

ELECTIONS 1981

OFFICERS:

President-Elect
First Vice President: C. Guy Castles, Jr., M.D., Elected 1977**
Second Vice President: J. Sidney Fulmer, M.D., Elected 1978**
Secretary: Kenneth N. Owens, M.D., Elected 1980

COUNCILORS:

Dist. 1: Bartolo M. Barone, M.D., Elected 1978. Re-elected 1979 (Odd-Even Requirement). Eligible for two more terms
Dist. 1: J. Frank Biggers, M.D., Elected 1978. Re-elected 1979 (Odd-Even Requirement). Eligible for two more terms
Dist. 3: E. Mims Mobley, Jr., M.D. Elected 1977. Re-elected 1979 (Odd-Even Requirement). Eligible for two more terms
Dist. 5: William Hull, M.D., Elected 1979. Eligible for two more terms
Dist. 7: Davis D. Moise, M.D., Elected 1975. Re-elected 1978 and 1979 (Odd-Even Requirement). Eligible for one more term
Dist. 9: Euta M. Colvin, M.D., Elected 1972 to fill unexpired term. Re-elected 1974 and 1977. Re-elected 1979 (Odd-Even Requirement). Eligible for one more term

AMA DELEGATE:

C. Tucker Weston, M.D., term expires 12/31/81

AMA ALTERNATE:

John C. Hawk, Jr., M.D., term expires 12/31/81

SPEAKER OF THE HOUSE:

J. Gavin Appleby, M.D., Elected 1978 to fill unexpired term of William H. Hunter, M.D. Re-elected 1979. Eligible for re-election.

VICE SPEAKER:

Hugh Wells, M.D., Elected 1978 to fill unexpired term of J. Gavin Appleby, M.D. Re-elected 1979. Eligible for re-election

STATE BOARD OF MEDICAL EXAMINERS:

Dist. 1: A Richard Johnston, M.D., term expires (First elected 1957)
Dist. 3: William P. Turner, M.D., term expires (First elected 1957)

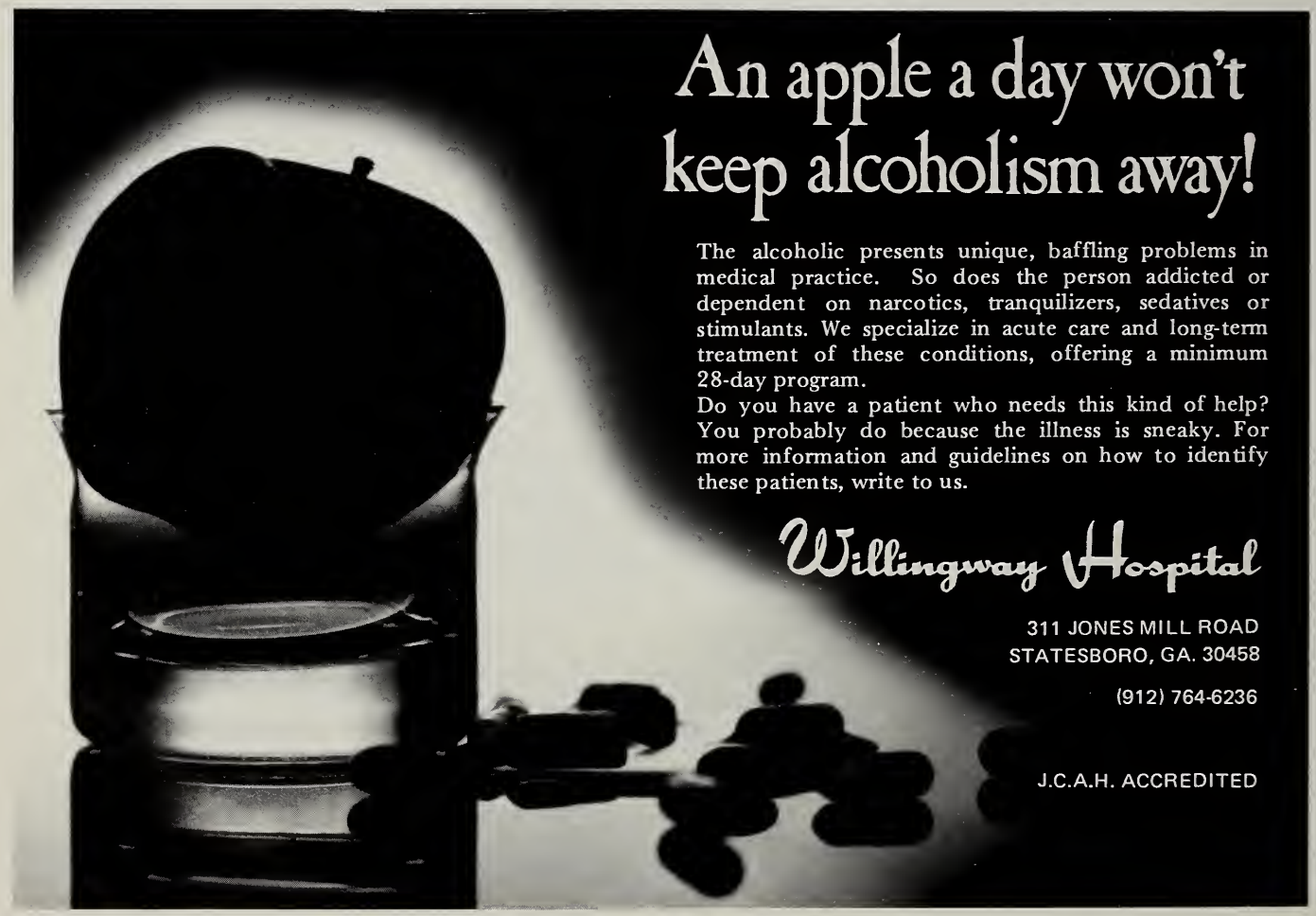
** Both elected under old Constitution and Bylaws in which there was no stipulation in number of terms. New C&BL adopted 1979 states elected annually, no more than three consecutive terms.

SOUTH CAROLINA MEDICAL ASSOCIATION MEMBERS' INSURANCE TRUST

The SCMA Members' Insurance Trust is now accepting applications for its group health and hospitalization insurance plan for member physicians, their dependents and staff.

The Trust also announces its new 65 Medicare "carve out" plan for physicians.

Please call the SCMA Headquarters or fill out and return the card included herein to obtain further information.



REPORTS OF COUNCILORS

FIRST DISTRICT

May I take this opportunity to thank the Metropolitan District membership of Charleston County for allowing me to serve as their councilor. It has been a full and rewarding year.

The Charleston County Medical Society has been very active in monitoring the activities of the Palmetto Lowcountry HSA. Together with the Charleston County Dental Society, the Medical Society currently employs the services of a consultant who attends all HSA meetings and prepares reports submitted to the County Medical Society HSA Committee.

Membership of the County Medical Society has increased dramatically this past year, with many new physicians moving into practice. We are fortunate in having as our President, Dr. Biemann Othersen. He has been instrumental in generating a good bit of interest on the part of the full time faculty at the Medical University in the County Medical Society. Plans are now in place to translate this interest into more active membership for the South Carolina Medical Association.

We trust that in the not too distant future, we may repeat our honor of last year, namely having had a colleague, Dr. George Durst, Sr., selected as receiving the Physician Award for Community Service from the South Carolina Medical Association.

Thank you for your courteous attention.

Respectfully submitted,
BARTOLO M. BARONE, M.D.
Councilor, First District

In the past year, I have tried to represent the interests of the membership who reside and practice in the rural and non-metropolitan areas of the First District. I have received most of my input from the Coastal Medical Society, whose membership is taken from all counties in the District and meets in each county of the District. I have reported the highlights and controversial topics of Council meetings to the Coastal Society on a regular basis.

I am proud to say to the best of my knowledge that each county society is in excellent condition. No conflicts have been reported that have not been resolved to the best of my ability.

I also appreciate the confidence Council has shown in me by allowing me to serve as Chairman of the Professional Liability Committee. We will continue to strive for the best medical liability coverage at the lowest cost to members.

I thank the members of the First District who have allowed me to serve them during the past year.

Respectfully,
J. FRANK BIGGERS, III, M.D.,
Councilor, First District

SECOND DISTRICT

It has been my pleasure to serve another year as a Councilor from the Second District of the SCMA. I feel that this has over-all been a good year and I hope that I have adequately served the members of my District.

I have attended all of the Council meetings during the past year and also attended the Council Retreat last fall. Periodically, I have attended meetings of the Executive Committee of the Columbia Medical Society and have tried to contribute articles to "The Recorder" of the Columbia Medical Society.

One of my primary efforts this year has been membership. I have been the coordinator of the Membership Committee for this area, and this has required a great deal of work since we have so many physicians in this area. We still have a ways to go, and I expect to continue our efforts for this year. The staff of the SCMA has been a great help in this regard. We also need more help from our Delegates who comprise the Membership Committee, as I feel that we need more direct physician-to-physician contact in soliciting membership from our area.

I have served on the Constitution and Bylaws Committee this year. This Committee will be making its report at the Annual Meeting in May.

I will continue to make every effort to serve my District to the best of my ability and would also like to thank the excellent help and support from the staff of the SCMA.

Respectfully submitted,
JAMES H. HERLONG, M.D.,
Councilor, Second District

Mr. President, Distinguished Members of the House of Delegates: I have served as a Councilor for a little less than a year now and have been honored and pleased to do so. I have attended all Council meetings and gone to the Retreat at Santee. I have served as the Chairman of the Physicians' Committee of the South Carolina Voluntary Effort group and we have met informally on two occasions. I have met with the Hospital Association on two additional occasions regarding these matters. We are currently involved in proposing a definition for "Ambulatory Surgical Facilities" by request from the South Carolina Department of Health and Environmental Control. In that regard, if you have suggestions or thoughts which would be useful for our committee, please communicate them to us.

Membership has been a major issue at our local county level. We have had the team come out from the state medical association, and I thought their visit was useful and effective.

Respectfully,
JACK L. RATLIFF, M.D.
Councilor, Second District

FOURTH DISTRICT

Membership has been the major emphasis this year in Medical District Four. We have had considerable success in increasing membership, but we still need more members and will continue to work until we hopefully reach 100%. We have also increased residency membership in our District.

I have attended all Council meetings during the past year and have attended all Executive Committee meetings as the At Large member. In the fall, I attended Pickens County Medical Society meeting with SCMA President Halsted M. Stone, M.D., and Mr. Charles Johnson, SCMA Executive Vice President.

I also attended the following AMA meetings: The AMA Annual Meeting in Chicago, July, 1980; the AMA Interim Meeting in San Francisco, December, 1980; and the AMA Leadership Conference in Chicago, February, 1981.

I am presently serving as a member of the Board of the South Carolina Medical Care Foundation, and have also devoted considerable time during the past year in my work as a member of the DHEC Board.

I know of no particular problems in our District. It has been my pleasure to continue to serve as Councilor of the Fourth Medical District.

Respectfully submitted,
LEONARD DOUGLAS, M.D.
Councilor, Fourth District

REPORT OF THE EDITOR

The Editorial Board has become more active, and will meet at this year's Annual Meeting to discuss directions of *The Journal.*

The number of quality articles submitted for consideration continues to increase. We continue to give priority to original scientific articles by practicing physicians and to concise review articles by medical school faculty members. Two generous awards sponsored by the Roe Foundation — one for practicing physicians and one for institution-based physicians — should encourage the submission of quality articles in both of these categories.

For the fiscal year which ended June 30, 1980, our revenue derived from advertising and subscriptions increased 38 percent. However, our expenses increased 29 percent, so that the actual cost of publishing *The Journal* (revenue minus expenses) increased 19 percent. Council has approved increases in both advertising and subscription rates effective January 1, 1982.

Respectfully submitted,
CHARLES S. BRYAN, M.D., *Editor*

REPORT OF THE SECRETARY

It has been my pleasure to serve as your Secretary for the 1980-81 year.

I have attended all Council meetings and all Executive Committee meetings. In addition, I attended the AMA Interim Meeting in December, and the AMA Leadership Conference in Chicago, as well as meeting with the Congressional Delegation in Washington in February.

The organization is stronger than it was a year ago. We have particular problems at the present time from a legislative standpoint, and need the cooperation and assistance of all physicians, whether they are SCMA members or not.

I will look forward to the possibility of serving you again in the future, as I anticipate running for re-election as Secretary in 1981.

Respectfully submitted,
KENNETH N. OWENS, M.D., *Secretary*

GERIATRIC — CARDIOLOGY, 1981

Sunday, May 17, 1981
Citadel Ballroom
8:30 a.m. - 12:00 Noon

Sponsored by

South Carolina Medical Directors' Association (SCMDA)

and

South Carolina Medical Association (SCMA)

8:30 a.m. "Overview of Geriatric Medicine" — *DAVID K. STOKES, JR., M.D.*

9:15 a.m. "Diagnosis and Management of Congestive Heart Failure in the Elderly Patient" — *DR. FREDERIC G. JONES*

10:00 a.m. BREAK

10:15 a.m. "Diagnosis and Medical Management of Coronary Atherosclerotic Heart Disease in the Elderly Patient" — *DR. GRADY H. HENDRIX*

11:00 a.m. "Surgical Management of Coronary Artery Disease in the Older Adult Patient" — *DR. PETER HAIRSTON*

11:45 a.m. QUESTIONS and ANSWERS

12:00 noon ADJOURN

SOUTH CAROLINA MEDICAL CARE FOUNDATION REPORT

The South Carolina Medical Care Foundation has continued to demonstrate its effectiveness in carrying out its health care administrative programs during this reporting period.

Amid continuing controversy over funding for PSRO's the Foundation has proven its ability to develop and implement programs to assure quality and cost-effective medical care in our state. In July, 1980, the United States Department of Health and Human Services awarded a 2.9 million dollar 18 month grant to the Foundation for its PSRO activities, and in January, 1981, recognized the Foundation's accomplishments by designating it as a fully qualified Professional Standards Review Organization.

A new Quality Review Policy has replaced the Medical Care Evaluation Study requirements of past years. Although fewer studies are to be conducted, they will address areas of documented need in each facility. The new more flexible approach is expected to have significant impact on the quality of care provided in our health care institutions and is compatible with the new quality assurance standard adopted by the JCAH.

A special study of cholecystectomies was conducted when regional and national data indicated a high incidence of this procedure in South Carolina. Data analysis showed 98.6% of the surgeries to be clinically justified with 93.3% pathologically confirmed.

Focused and random review methodologies have significantly reduced the cost of concurrent review. Improved data collection and profile analysis techniques have enabled the Foundation to identify patterns of inappropriate utilization and direct its resources more effectively.

A comprehensive criteria manual containing guidelines for Level of Care, Alternate Placement and weighted criteria for Long-Term Care has been developed and distributed to physicians and health care facilities throughout the state. Additional copies are available to all physicians to assist in the assessment and documentation of patients' long-term care needs.

A revised data abstract for Long-Term Care has improved the Fondation's ability to assess the needs of nursing home patients and link them with medically necessary services and treatments. Alternate care services which, if available, would allow patients to return to the community are also identified to assist in discharge planning.

In addition to its PSRO activities the Foundation has been involved in several special projects. Data on all hospital discharges is collected under a contract with DRSS. CHAMPUS — sponsored hospital care is reviewed under a contract with the United States Department of Defense, and agreements with thirteen South Carolina hospitals allow the Foundation to review private patients to assist those facilities in meeting the Joint Commission's requirements.

The physicians of South Carolina have given generously of their time and talent in support of the Foundation's endeavors. Their service as Physician Advisors and committee members is an expression of their commitment to assuring the citizens of our state of excellence in medical care.

On behalf of the Board of Directors I want to thank each of you for the interest you have shown and the direction you have provided. The Foundation's record of accomplishments will continue to grow with your support.

Respectfully submitted,
RANDOLPH D. SMOAK, JR., M.D.,
President

COMMITTEE REPORTS

Editorial Note: Committee Reports are grouped by the Commission under which they operate.

COMMISSION ON PUBLIC HEALTH:

C. GUY CASTLES, JR.,
Commissioner

COMMITTEE ON OCCUPATIONAL MEDICINE

The SCMA Committee on Occupational Medicine has met three times during the past year and has a fourth meeting planned for April 23, 1981. We held meetings on August 6, 1980, October 10, 1980 and January 19, 1981. The August and January meetings were held at the SCMA Headquarters Building; the October meeting was held at Myrtle Beach in conjunction with the Industrial Commission Annual Education Conference and the meeting planned for April is to be held in Spartanburg at Hoechst Fibers. The Committee has been invited by one of its members, Walter Coker, M.D., who is in-plant physician at Hoechst, to hold a meeting at the plant and to tour the facility.

During the year the members of the committee have worked to provide consultation and expertise to the S. C. Industrial Commission in regard to the revising of the Workmen's Compensation Fee Schedule. In addition to providing specific information pertaining to the Fee Schedule, it has also been the desire of the Committee to foster better relationships between the Medical Association and the S. C. Industrial Commissioners. We attempted to do this by sponsoring working-supper meetings and by keeping an open line of communication via David Holler, M.D. and other continuous contacts.

The S. C. Industrial Commission sponsors workshops directed to the office workers of physicians who deal with occupational illness/injury cases. Several members of our committee participated in the workshop, and the entire committee provided input into the planning of the program for that activity. Those workshops were held in June.

A member of our committee, Dr. Ed Shmunes, was responsible for obtaining the educational speakers for the fall Educational Conference held in Myrtle Beach which is co-sponsored by the S. C. Industrial Commission and the SCMA Occupational Medicine Committee. In addition to its involvement with the planning of the program and obtaining of the speakers, the Committee also sponsored a reception and dinner for the members of the S. C. Industrial Commission and their spouses. The Committee sponsored the honorariums for the out-of-state speakers.

As one of its activities for the year, the Committee had endeavored to arrange a joint meeting between the SCMA Committee on Occupational Medicine and the S. C. Legislative Industrial Committee, Isadore Lourie, Chairman. On the evening of January 19, 1981, following an afternoon SCMA Committee meeting, the two organizations joined for a supper meeting. Unfortunately, only one member of the Legislative Committee, Sen. Lourie, was able to attend. This was disappointing to the members of the Committee who had all but three of its members present. Though the number was smaller than hoped, the meeting was a productive one for all, and it is hoped that more joint meetings can be planned in the future.

During the year the Committee members have been greatly concerned about the barrage of statistics coming from numerous government agencies and independent statisticians regarding industrial illness/injury. It is the concern of the members of the Committee that these statistics are being misinterpreted. For instance, when a report is published indicating that millions and millions of workers have been afflicted with illness as a direct result of their occupation, that report invariably neglects to also report that these workers have worked in a given industry for 30+ years. Their "occupational illness" is a result of the "aging process" of that human being. Some of the so-called side affects would be felt in the aging process no matter what that person's occupation was. The members of the SCMA Occupational Medicine Committee sincerely hope that more information will be interpreted and

explained as information is fed to the public and that more than just gigantic statistics are provided.

The resignations of two members of the Committee were received by the chairman at the January meeting. Those members resigning are: B. M. Montgomery, M.D., Greenwood and John F. McLaughlin, M.D. Dr. McLaughlin resigned due to moving out of state, and Dr. Montgomery's resignation is due to increased responsibilities at Self Memorial Hospital.

Respectfully submitted,
W. J. GOUDELOCK, M.D., *Chairman*

MEMORIAL COMMITTEE

Some of our colleagues who have been friends to many of us and to thousands of patients have answered their last call since we met together last May. I am sure that we all agree that it is appropriate that we pause at this time to give thanks to Almighty God for the lives of those of our departed friends and colleagues; Dr. Harold Allison; Greenville, Dr. Weston Cook; Chester, Dr. Lucius Keels; Manning, Dr. Franklin Geiger; Columbia, Dr. Watson Finger; Charleston, Dr. Thomas B. Carroll; Hardeeville, Dr. Inga Taylor; Charleston, Dr. Robert F. Goldie; Columbia, Dr. Vince Moseley; Charleston, Dr. Edward M. Burn; Columbia, Dr. Raymond Lassen; Greenville, Dr. Frederick Nigels; Myrtle Beach, Dr. Joseph Hair; Aiken, Dr. Robert D. Hicks; Columbia, Dr. Charles Elvington; Nichols, Dr. Charles May, Jr.; Bennettsville, Dr. John White; Easley, Dr. Samuel H. Haddock; Anderson, Dr. David Toth; Mt. Pleasant, Dr. Benjamin A. Cothran, Jr.; Winnsboro, Dr. Robert Crawford; Lancaster, Dr. William McDaniel; Walterboro, Dr. G. A. Billinghurst; Aiken, Dr. Herbert Black; Columbia, Dr. J. M. Kuemmerer; Walhalla.

Respectfully submitted,
W. RION DIXON, M.D., *Chairman*

COMMISSION ON PUBLIC AFFAIRS AND PROFESSIONAL RELATIONS:

J. SIDNEY FULMER, M.D.,
Commissioner

COMMITTEE ON ALCOHOL, DRUG ABUSE AND DISABLED PHYSICIANS

The committee is working to develop a strong physicians assistance program in South Carolina. To this end, liaison with State Board of Medical Examiners and Attorney General's office has been established, so as to allow this committee to intervene with an impaired physician without threat of loss of license. Current plans indicate that any physician who voluntarily participates in SCMA's rehabilitation program successfully, will not be reported by the committee to the State Board, however, if the committee's intervention efforts fail, the impaired physician will be reported so as to insure patient safety.

The committee has been sub-divided into two subcommittees, one to act as liaison with the State Board and the second, an intervention committee of 18 members representing South Carolina's nine (9) medical districts. Each district intervention team will be comprised of one (1) previously impaired physician plus one (1) physician knowledgeable in the area of addictions.

The committee is also identifying referral resources and working with the Georgia Medical Association's Impaired Physicians Committee to insure a solid program.

Respectfully submitted,
SKOTTOWE B. FISHBURNE, M.D.,
Chairman

COMMISSION ON SCIENTIFIC AFFAIRS AND MEDICAL EDUCATION:

KENNETH N. OWENS, M.D.,
Commissioner

SCMA/SCHA JOINT PROJECT COMMITTEE TO IMPROVE RELATIONS IN THE HOSPITAL

The committee functions to improve communications and cooperation among Administrators, Medical Staff and Board Members. To this end, consultations are provided by commit-

tee members to any hospital requesting assistance in resolving operational problems related to inter-group communications. The committee also supports educational activities defining duties and communication skills necessary for the Administrator, Chief of Medical Staff and Board Member to work effectively in his/her role. The committee plans to conduct a two day conference on the above in late 1981 or early 1982.

The committee has developed and approved an appellate review procedure through a three man sub-committee consisting of two physicians and one Board member. The procedure upon approval by SCMA's Council, will be utilized by the SCMA in processing future appellate review requests.

Respectfully submitted,
JOSEPH W. TABER, M.D., *Chairman*

COMMITTEE TO THE SOUTH CAROLINA DEPARTMENT OF CORRECTIONS

This committee continues to function as one of twenty-two (22) such committees at as many state medical associations. Its purpose is to upgrade health standards in South Carolina's jails. The committee is working with twelve (12) facilities representing thirteen (13) counties, including; Greenwood, Saluda, Orangeburg-Calhoun, Jasper, Beaufort, Florence, Union, Oconee, Fairfield, Clarendon, Spartanburg and the Columbia City Police Department.

Five (5) facilities were submitted to the AMA for accreditation of their health delivery system in January of this year. Of that group, the Oconee, Fairfield and Saluda County facilities and the Columbia City Police Department were accredited. The Florence County facility was delayed for an April review due to the hiring of a full-time nurse for the jail concurrent with the time of review. AMA's committee recommended that this new health care system with jail nurse operating under physician's orders be in operation for 60 days prior to accreditation. Since this was AMA's only question on Florence's health care system, it is anticipated that this facility will also be accredited.

The committee hopes that the Union and Spartanburg facilities will reach accreditation status in July of this year. Both facilities are progressing nicely in developing their health care systems.

Respectfully submitted,
CHARLES F. CREWS, M.D., *Chairman*

COMMITTEE ON PERINATAL AND MATERNAL HEALTH

The committee continues to investigate infant and maternal mortalities, however, emphasis has been placed on correcting problem situations before they arise. To this end, two sub-committees dealing with patient education and physician education have been established. The committee sponsored a speaker at last year's annual meeting through its physicians' education sub-committee and provided technical input for several public service announcements (PSA's) on proper prenatal care for the general public, through its patient education sub-committee. Funding for PSA development was provided through DHEC's Improved Pregnancy Outcome Program. It should be noted that one of the PSA's on teenage pregnancy recently received the Addy Award, that is, first place in public service television, from the Columbia Advertising Club of the American Advertising Federation.

The Committee approached the Kellogg Foundation for funds to develop (1) a program for the public and physicians on prenatal care and (2) to establish a network of hospitals providing necessary levels of care as based on risk. Kellogg indicated the project was too limited in scope to fund, so the committee is now working with the South Carolina Hospital Association to acquire Duke Endowment funding to establish a professional (physicians, nurses, technicians) education system in hospitals, and also to develop the aforementioned hospital network of referral in hopes these efforts will have a positive impact upon perinatal and maternal mortalities.

Respectfully submitted,
HENRY C. HEINS, JR., M.D., *Chairman*

COMMITTEE ON CONTINUING MEDICAL EDUCATION

The committee functions to coordinate CME activities of the SCMA and accreditation of regional institutions for awarding of CME credits

for programs co-sponsored regionally.

The committee's principal activities have included: production of the CME Calendar, a quarterly publication of medical educational programs, within and outside South Carolina and preparation of the scientific program to SCMA's Annual Meeting through its sub-committee chairman, Frederick G. Jones, M.D.

The committee is investigating a CME record keeping system for SCMA's membership and has developed the system used at this year's meeting.

Respectfully submitted,
WILLIAM R. DeLOACHE, M.D., *Chairman*

PHYSICIANS ADVISORY COUNCIL TO THE SOUTH CAROLINA VOLUNTARY EFFORT

The physicians advisory council is one of five councils comprising the SCVE including: business, third parties, legislature and hospital administration. These groups meet together and independently to develop methodologies for reducing the cost of medical care. The physicians group has only recently become active and as initial workings has reviewed the cost effectiveness of second opinions prior to surgery and decided not to embrace the concept as being, in general, cost effective. It may be in individual situations and should be proposed in that way. The committee is also investigating the cost savings potential of a Preadmissions Testing (PAT) program at one hospital. After review, including: administrative difficulties encountered by the hospital, changes in routine operations and scheduling and cost savings, the committee has recommended that the Aiken Hospital and its program serve as a model for other South Carolina hospitals in establishing similar programs.

Respectfully submitted,
JACK L. RATLIFF, M.D., *Chairman*

COMMITTEE TO PLAN STATE MEETINGS

The Committee to Plan State Meetings has been much more active in planning for the 1981 Annual Meeting than in years past. We certainly hope that all our efforts prove to be worthwhile and meaningful to the membership of the South Carolina Medical Association.

Before I report further on the committee's activities, I want to acknowledge and thank the members of the Sub-Committee of the Continuing Medical Education Committee who planned the two scientific assemblies and coordinated the various afternoon workshops. Fred Jones, M.D., of Anderson chaired the Sub-Committee which consisted of the following members:

William R. DeLoache, M.D., Laurie N. Ervin, M.D., C. W. Brice, M.D., R. Ramsey Mellette, M.D., O'Neill Barrett, M.D., and Gerald E. Costello, Ed.D.

Our committee appreciates all that this group did and we feel that they certainly did a yeoman's job in developing the scientific assemblies for the 1981 Annual Meeting.

The Committee to Plan the State Meeting, hopes that you like this new format of the SCMA Annual Meeting along with our new location. The committee recommended to Council that the 1982 meeting also be held here in Charleston; Council concurred and the arrangements are already underway for May 5 through 9, 1982.

The overall format of the SCMA Annual Meeting has undergone considerable change over the last several years. This change, we feel, has helped improve the interest and attendance at the meeting. Since the cost of putting on the SCMA Annual Meeting has exceeded $30,000, a large portion but not all of which is underwritten by those who pay to exhibit at our meeting; the committee and Council felt we should work to establish a program which would interest and attract a large portion of our membership. We feel that we have done this but we hope for even better attendance in the future.

Our philosophy on registration fees has been one of no registration fee for SCMA members. The committee certainly hopes that we can maintain this no registration fee policy in spite of the continually rising cost associated with putting on such a meeting. Our efforts to maintain this philosophy can be made much easier with an increase in attendance. So please schedule to attend SCMA's Annual Meetings and encourage other physicians you know to join you.

The Committee to Plan State Meetings would like to encourage the reference committee which

considers this report to seek input from other delegates and alternates and make some comments and/or recommendations concerning the format and time of the Annual Meeting, the overall schedule of events and the scientific subject matter available at SCMA's Annual Meeting.

As a matter of information, the size of the SCMA House of Delegates has grown from 89 in 1975 to 194 for 1981.

I know that I speak on behalf of the entire Committee to Plan State Meetings in saying that we thoroughly enjoyed all the work and efforts put forth in order to bring this meeting together for the SCMA membership.

Respectfully submitted,
J. GAVIN APPLEBY, M.D.
Speaker, House of Delegates

COMMISSION ON SOCIOECONOMIC ACTIVITIES:

E. MIMS MOBLEY, JR., M.D.,
Commissioner

PUBLIC RELATIONS COMMITTEE

During the past year the Committee on Public Relations has promoted the monthly mailing of short articles dealing with health care for publication in the South Carolina newspapers. Also, the Committee aided by the South Carolina Medical Association Public Relations counselor, Mr. LeRoy Harrelson, composed and distributed a brochure telling the "SCMA Story" along the helpful tips on good health. This was circulated for SCMA physicians' waiting rooms.

These activities will be continued and expanded.

Respectfully submitted,
LEON BANOV, JR., M.D., *Chairman*

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THE SCMA INSURANCE PEER REVIEW COMMITTEE

Ed. Note: This committee reports directly to Council.

The SCMA Insurance Peer Review Committee remains very active, meeting regularly on the first Thursday of alternate months. We have had several changes in our membership since our last report to the House of Delegates, with replacements for physicians who have resigned or rotated off. New members include William Eckstein, M.D., of Greenville; Edward L. Proctor, M.D., of Conway; and Edward Mattison, M.D., of Anderson. These physicians are becoming valuable members of our committee and will greatly assist us, particularly with decisions regarding their specialty area. As this report is being prepared, we have regretfully accepted the resignation of Albert E. Cremer, M.D., our Vice Chairman, who has been one of our most dedicated and hard-working members. The S. C. Chapter of the American College of Surgeons has been asked to nominate a replacement.

We continue to consider matters and problems of concern for Blue Cross and Blue Shield and for other insurance companies as well. Patterns of practice reviews, in which the committee was so active in the past, have lessened considerably in the last few months. We like to think that this is partly due to the committee's efforts in cost containment without affecting the quality of medical care. In addition, two re-reviews conducted by Blue Cross and Blue Shield this past year on physicians who came before the committee a year or more ago have shown that the improvement in their record keeping, the diminishing number of "diagnostic admissions" and the elimination of unnecessary laboratory tests indicate their willingness to cooperate with the committee in its cost containment goals.

Efforts to assist the S. C. Department of Social Services in its peer review program have been progressing very slowly, partly due to the problems in the DSS MMIS system (of which we are all aware) and partly due to a lack of understanding of our committee and how it functions. We hope, however, by the time this report is presented to the House of Delegates, we will have become more actively involved in peer review for DSS, not only to assist that agency, but, even more importantly, to help the physicians throughout the state in adjudicating their claims problems in the Medicaid program.

Problems continue to surface in several specialty areas, most recently in connection with plastic surgery claims and procedures, and advance approval requests. The committee is making every effort to deal with these problems in a fair and just manner. We requested that Council consider the appointment of a plastic surgeon to the committee, resulting in a nomination from the S. C. Society of Plastic and Reconstructive Surgeons and the subsequent appointment of Dr. Eckstein.

We would like to take this opportunity to emphasize some of the important reasons for the committee's existence. It is our purpose to protect the physicians of South Carolina by providing a quality review process by their peers. We are also available as a sounding board for physicians to air their problems with the third party payers. Of major importance too is our effort to protect our patients to insure that they get quality care at the lowest possible cost.

The committee welcomes the input and suggestions of the SCMA membership and assures each of you that any problems which you bring to our attention will receive our careful consideration.

Respectfully submitted,
DANIEL W. BRAKE, M.D., *Chairman*

RESOLUTIONS TO BE PRESENTED AND VOTED ON AT ANNUAL MEETING

SUBMITTED BY: CHARLESTON COUNTY MEDICAL SOCIETY

SUBJECT: CHILD RESTRAINT LAW

WHEREAS, it is a well established and accepted fact that vehicle accidents are the greatest cause of suffering and health among American children, and that automobile accidents continue to be the primary accidental killer of children and adolescents; and

WHEREAS, ninety percent of children ride unprotected as helpless dependent passengers; and

WHEREAS, the accident death rate can be reduced by eighty-five percent by the use of child restraint devices (CDR);

THEREFORE BE IT RESOLVED that the Charleston County Medical Society recommends and supports the concept of a Child Restraint Law requiring parents or guardians of children under the age of four to require such children to use a child restraint system while riding in a motor vehicle.

THAT the Charleston County Medical Society supports a public information and educational program to encourage the use of safety belts and child restraint devices for children four years of age or younger.

THAT the Charleston County Medical Society supports the Greater Charleston Safety Council, the Charleston County Medical Auxiliary, the American Pediatric Society and other local civic groups in their efforts to promote the use of child restraint devices by public education of child passenger safety in the community.

The Charleston County Medical Society would appreciate your support and requests that you distribute this information to such legislators as you deem appropriate.

SOUTH CAROLINA DERMATOLOGICAL ASSOCIATION

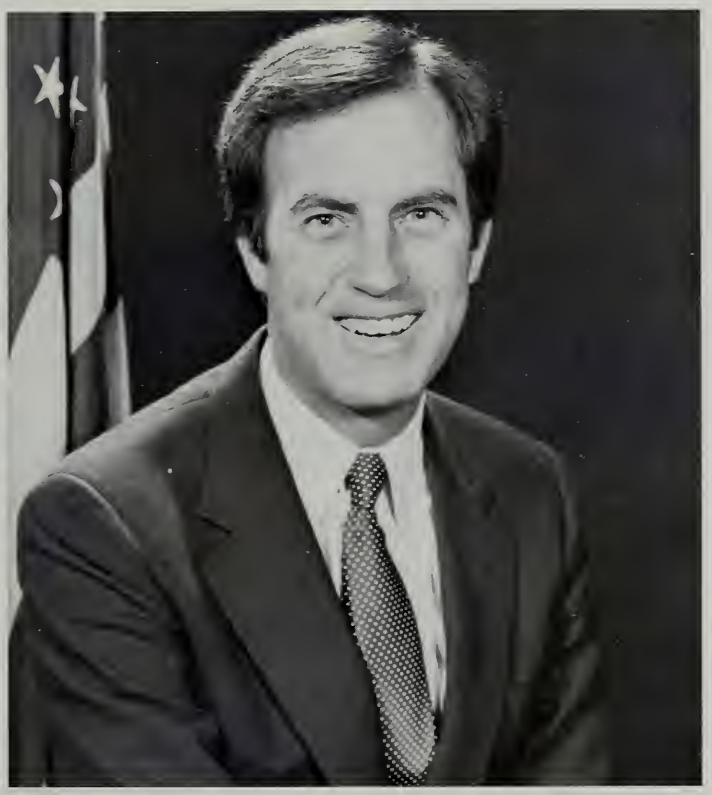
BUSINESS MEETING AND SCIENTIFIC PROGRAM* MAY 16, 1981 — THE CHARLESTON SHERATON

SATURDAY, MAY 16, 1981

8:15 - 8:30	Coffee and Rolls
8:30 - 9:30	Parapsoriasis/Mycosis fungoides — *Dr. Mark Allen Everett*
9:30 - 9:35	Questions and Answers
9:35 - 9:55	Coffee and Cokes
9:55 - 10:55	Current Concepts in the Contact Urticaria Syndrome: Contact Hives to Anaphylaxis — *Dr. Howard Maibach*
10:55 - 11:00	Questions and Answers
11:00 - 12:30	Business Meeting (MEMBERS ONLY)
2:00 - 3:10	T cell Subpopulations and Their Identification — *Dr. Mark Allen Everett*
3:10 - 4:20	The Excited Skin Syndrome and Exogenous Dermatoses — *Dr. Howard Maibach*
4:20 - 4:30	Questions and Answers
4:30	Adjourn
6:00	Reception at the Wycliffe House (MEMBERS AND GUESTS ONLY)

APPROVED FOR FIVE HOURS OF CREDIT IN CATEGORY I BY THE AMERICAN ACADEMY OF DERMATOLOGY AND FOR THE AMA PHYSICIAN'S RECOGNITION AWARD

FEATURED SPEAKER: ANTEBELLUM FEAST



CONGRESSMAN THOMAS FORBES HARTNETT

Featured speaker at the SOCPAC sponsored "Plantation Feast" on Friday, May 15, 1981, will be Congressman Thomas Forbes Hartnett. The "feast" will be held in Cotillions A, B and C at The Charleston Sheraton, beginning at 8:00 p.m., immediately following a reception hosted by the SCMA at 7:00 p.m. on the Peacock Promenade.

Congressman Hartnett represents the First Congressional District of South Carolina, comprising the counties of Berkeley, Beaufort, Charleston, Colleton, Dorchester, Hampton and Jasper.

Congressman Hartnett was born August 7, 1941 at Charleston, the son of the late Thomas C. and Catherine (Forbes) Hartnett of Charleston. He studied extensively at the College of Charleston in Business Administration from 1960 to 1962. His professional education includes: University of South Carolina, 1978; Real Estate Appraisal Certification, University of Georgia, 1978; and Senior Certified Appraiser, American Association of Certified Appraisers. He is President of Hartnett Realty Company; and Past President of the West Charleston Exchange Club, the Breakfast Exchange Club of Charleston, and Bishop England High School Alumni Association. He is a former member of the Board of Directors of the Charleston County Cancer Society, and the Advisory Board of the Coastal Carolina Council of the Boy Scouts of America. His present memberships include the Hibernian Society of Charleston, the Knights of Columbus, 3rd and 4th Degree, the Charleston Elks Lodge #242, the Greater Charleston Board of Realtors, the South Carolina Realtors Association, and the National Association of Realtors.

His military service includes active duty in the United States Air Force from April to November of 1963, and the United States Air Force Reserve from 1963 to 1969.

Congressman Hartnett was a member of the South Carolina House of Representatives from 1965 to 1973 and of the South Carolina Senate from 1973 to 1980.

Married to Bonnie Lee Kennerly of Charleston, December 18, 1965, they have two children, Thomas Forbes, Jr., age 9, and Lee Anne, age 8.

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S.C. MEDICAL ASSOCIATION ANNUAL MEETING & EXHIBITION
The New Charleston Sheraton — May 13-17

Editorials

GUEST EDITORIAL: THE SURGICAL CONSCIENCE

Conscience is defined as a knowledge or sense of right and wrong, with a compulsion to do right. The surgical conscience is that inner voice that directs the surgeon to an exercise of conduct, perhaps a "Golden Rule," wherein he treats his patients as he would want another practitioner to treat him or his beloved ones, and he asserts himself if he finds that a colleague has done ill.

There is no phase of surgery to which this concept can be better applied than the proliferation of open heart or cardiac surgery programs being witnessed in South Carolina. This proliferation reflects an international trend, generally attributable to the introduction of coronary artery techniques. At the same time, this expansion in capability warrants a focus on several issues, the two most important being the standards for setting up open heart programs, and the mechanics of monitoring the programs once established.

Basic concepts regarding these issues have been formulated, and general guidelines established under the aegis of organizations such as the Inter-Society Commission for Heart Disease Resources (ICHD). This is a joint commission originally formed by the Regional Medical Program Service of the Department of Health, Education and Welfare, the American Heart Association, and the American College of Cardiology. The ICHD agreed that the establishment of new open heart programs should not be discouraged or prevented where program facilities are complete, surgeons are qualified, there is a community need for this type of service, and the hospital is prepared to financially support the program.

These factors are all subject to divergent opinion; however, none evokes so strong an emotional response as the surgeon's qualifications, specifically how and by whom they are to be assessed. Paderewski, the famed concert pianist is reported to have stated, "If I miss a day of practice I can tell a difference in my technique. If I miss two days of practice my wife can also note it. If I miss a week even the public can tell." Should the surgeon, especially one involved in intricate and demanding specialty of cardiac surgery not agree that his operative skill is analogus to that of the concert pianist? Therein lies a call upon the surgical conscience.

Coronary artery bypass, the most frequently performed cardiac surgery, accounts for an operative mortality of ess than 1% in most centers. Mortality figures such as these are the most objective criteria of the surgeon's capability, and appear directly related to the volume experience of the surgeon and the surgical team. In other words, the more he does the better he does it, an axiom that we have been using on our children for years. While it may be naive to equate quantity with quality, the effort should be to establish optimal guidelines rather than accept minimum standards.

There is currently no viable peer entity to monitor either regionally or nationally a cardiac surgeon's performance, and it is impossible to legislate proficiency. Therefore, the surgeon must look within himself to assess his own performance capability. Again, therein lies a call upon the surgical conscience.

The surgeon who assumes the exacting responsibility of the ischemic or otherwise damaged heart under the suboptimal conditions of his limited experience ignores his surgical conscience. By so doing he endangers the patient, demeans his profession, and exposes himself to the vagaries of the courtroom arena in which there are no winners.

In a state and a profession that abhores bureaucracy, the establishment of boards, agencies, commissions, etc., to review and/or legislate performance strikes a discordant note. Unfortunately, this litigation prone age demands something more tangible than the surgical con-

science, preferably within the profession, to govern behavior and stimulate ethical awareness. The most logical place for peer scrutiny to begin is at the local hospital level; however, objective impersonal opinions which may have a restraining influence are difficult to obtain within a community.

The state of New York looked to this problem years ago and established a Cardiac Advisory Committee whose physician members serve to advise the State Commissioner of Health. The purpose of the committee is to monitor the quality of cardiac diagnosis and surgery at hospitals where such procedures are done. South Carolina must now consider such a step as a safeguard not only for the profession, but more importantly, for the patient. As stated by the AMS Judicial Council: "Ethical standards of professional conduct often exceed but are never less than those required by law."

PETER HAIRSTON, M.D.
Suite 1-K Ashley House
Charleston, South Carolina 29403

GUEST EDITORIAL: SCMA AND CONTINUING MEDICAL EDUCATION

The SCMA has declared its role in continuing medical education (CME) in three ways: as an accrediting body for CME sponsors; as a publicizer of CME events; and as a "provider" at the scientific session of the annual meeting.

The possibility that the SCMA might also serve as a recorder of CME participation by its members is also being considered. However, this service may be more adequately provided by hospitals, specialty societies, or by the physicians themselves.

Many states are now leaning away from *mandatory* requirements for CME participation as a part of the relicensure process. It now seems less likely that such mandatory requirements for CME participation will become a part of the relicensure process in South Carolina. This trend does not indicate a disenchantment with the value of CME. Much evidence now exists that improvement in patient care *does* result from well-planned CME courses or other events which are attended by motivated physician-learners. The major problem in providing effective CME is to match actual needs with a suitable place, time, and manner of presentation.

There is enough educational opportunity available in South Carolina to provide more than one needs to stay abreast of new developments at a reasonable (often miserly) cost. However, attendance is frequently disappointing. Often, more nurses than physicians will appear at an event or seminar designed primarily for the latter. Perhaps we fail to provide a "hard sell."

Providers need to furnish information on CME events to the SCMA early enough to make the deadline for the calendar. Practitioners must tell providers of CME what is needed. Even Socrates had to have someone on the other end of the log asking and answering questions. Feedback is essential!

Our committee urges physicians to "make a stab" at attending these educational offerings in our own backyard. Most of these offerings are first-class events. There is enough variety to appeal to most physicians. If one has suggestions for programs, let the responsible parties know. Such suggestions can be made either through local planners or through the SCMA committee on CME.

WILLIAM R. DELOACHE, M.D., *Chairman*,
SCMA Committee on Continuing Medical Education
701 Grove Road
Greenville, S. C. 29205

The opinions expressed in guest editorials in The Journal *are those of the writer, and do not necessarily reflect the policies of the South Carolina Medical Association.*

President's Page

CHOOSE UP SIDES

The Annual Meeting of the SCMA is fast approaching, and, as usual, the physicians of South Carolina will have several knotty problems to deal with. To have a meeting without problems to be solved makes for quite a dull time. It also makes the leadership wonder if there really aren't problems or is the apathy and general disinterest such that the problems do not surface. The House of Delegates will have several important issues to debate this time. It is hoped that the debate will be good so that the proper decisions will be reached. I will touch on two problems at this time.

The House of Delegates has asked each of the constituent chapters to discuss unified membership during the year and report back, ready to vote, this year. I have mentioned this at each visitation, and the response has been varied. If your county society has not discussed this, please do so and be ready to vote. The purpose of this would be to increase membership in the SCMA. Please discuss this issue and be ready to vote in May at the Annual Meeting.

The second problem I want to touch on is one that has been debated in the past and will need to be debated again. The issue is PSRO, and the official position SCMA should take on this. PSRO is run by physicians as a part of our South Carolina Medical Care Foundation. It has truly been a peer review mechanism in this state and, to those of us who have been associated with it, the quality of medicine in South Carolina has been greatly enhanced as a result of PSRO. This has the added effect of increasing the health and well-being of the citizens of South Carolina. It has been an educational experience for many physicians and to those who persisted in bad practice habits, the spectre of sanctions has been called on several times. It has been a means of cleaning our house and has been impressive to the public. The fact that cost savings came about as a result of the PSRO was incidental and has not been a big factor with the governing Board of PSRO. If all of you had been privy to see the quality improvements brought about by the audits done in this state, you would feel also that PSRO is serving its mission well in this state. Physicians in South Carolina did not duck the responsibility of running this program. To those who oppose all federal programs because they are federal programs, I would normally be in agreement, except for this one. Because of PSRO, South Carolina physicians were able to clean up their act. To be non-involved does not necessarily equate with respectability. I feel so strongly about the success of PSRO in our state that, if it were to be put out to pasture by the feds, the SCMA would have to find some way to make it continue. The alternative of Blue Cross and Medicaid during UR reviews by chart clerks is more revolting to me than having a well-run, federally funded PSRO. What we have now is true peer review. The fact that our Building Corporation profits from PSRO data contracts does not enter into my decision to back this form of true peer review. It would be naive to think that the federal government, paying 43 cents of every health dollar, is not going to exercise controls over how it is spent. Let's keep it locally run and controlled by and for physicians. The issue will be an interesting item to debate in our House of Delegates.

Membership is ahead of last year, and hopefully will reach a new high. Organized medicine needs every shoulder at the wheel. If you have not joined this year, do so at once, as. . . .

MEMBERSHIP IS UNITY FOR STRENGTH!

HALSTED M. STONE, M.D., *President*

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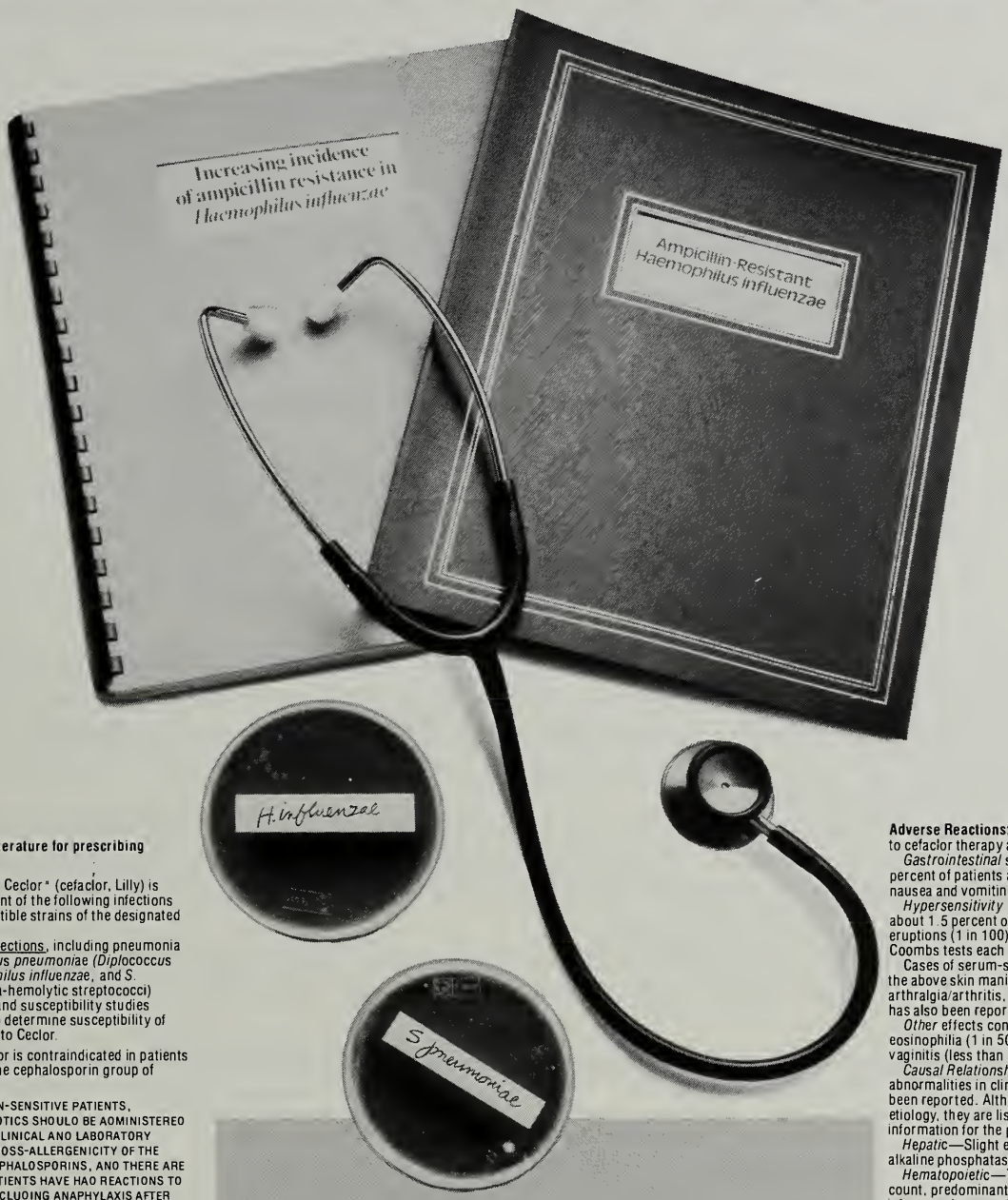

Brief Summary.
Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS TO BOTH DRUG CLASSES (INCLUDING ANAPHYLAXIS AFTER PARENTERAL USE).

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Precautions: If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Usage in Pregnancy—Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

Usage in Infancy—Safety of this product for use in infants less than one month of age has not been established.

Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

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Adverse Reactions: Adverse effects considered related to cefaclor therapy are uncommon and are listed below:

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting (1 in 90).

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Cases of serum-sickness-like reactions, including the above skin manifestations, fever, and arthralgia/arthritis, have been reported. Anaphylaxis has also been reported.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200). [103080R]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.[8]

Note: Ceclor® (cefaclor) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.

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HOSPITALITY CENTER: This area will be the hub of all our activities. Registration and ticket sales will take place here. The general information desk will have brochures on events in Charleston, youth activities programs and a list of qualified baby sitters. The display area will house all Auxiliary scrapbooks, newsletters and other items of interest. There will be an AMA-ERF Boutique and Silent Auction, and new members' registration desk which will be open to all those wishing to join the SCMAA. Plan to use the Hospitality Center as a meeting and getting acquainted area and enjoy the complimentary refreshments.

BREAKFAST: Complimentary breakfast Thursday will be a Mini Low Country Breakfast, and Friday we will have a Charleston Continental Breakfast.

MEETING MINI-BREAKS: What a grand chance for a pause and some refreshment! Complimentary for those hard at work during the meetings on Thursday and Friday, these breaks will furnish a delightful assortment of delicacies.

PRE-LUNCHEON RECEPTIONS: The pre-luncheon receptions are completely complimentary and are not included in the price of the luncheons. On Thursday we will be poolside with Pina Coladas; Friday, poolside again with Kir Royal Champagne Punch.

LUNCHEONS: Reservations are a must! Thursday luncheon will include a poolside Fashion Show by Elza's of Charleston. Everyone is invited to attend this delightful affair. Friday is the Low Country Luncheon in honor of our State Past Presidents which will include a Gullah narration, the songs of the Charleston Spiritual Singers and a demonstration of basket weaving with Sweet Grass. Our National President will bring us greetings.

HOUSE TOUR & WINE SPRITZERS INTERLUDE: This house tour in Old Charleston will include the beautiful homes of Dr. & Mrs. G. Fraser Wilson, Dr. & Mrs. Donald A. Riopel, Dr. & Mrs. T. Bright Williamson and Dr. & Mrs. Fletcher Derrick. The wine spritzers interlude will be held in the lovely rose garden of Dr. and Mrs. Derrick.

PLANTATION TOUR & LUNCHEON: This tour is especially designed for the SCMAA and will feature the St. James Goose Creek Chapel and Mulberry Plantation. Bloody Marys and lunch will be served.

BUS TRANSPORTATION: Complimentary bus transportation for each tour will leave promptly in front of the Sheraton Charleston Hotel.

S.C.M.A.A. CONVENTION
ITINERARY
MAY 13, 14, 15, 1981

REGISTRATION HOURS	HOSPITALITY CENTER
Wednesday, May 13, 1981 — 3-5:00	Room #220
Thursday, May 14, 1981 — 8:30-5:00	(Charleston Room)
Friday, May 15, 1981 — 8:30-1:00	

WEDNESDAY, MAY 13, 1981

3:00 p.m. - 5:00 p.m. — Registration — (Room #220) Charleston Room
3:30 p.m. — Finance Committee Meeting — Lord Proprietors Suite

THURSDAY, MAY 14, 1981

8:30 a.m. - 5:00 p.m. — Registration — (Room #220) Charleston Room
8:30 a.m. - 10:00 a.m. — Mini Low Country Breakfast — (Room #229) Prosper
10:30 a.m. - 12:15 p.m. — Executive Board Meeting — (Room #213) Palmetto State
11:30 a.m. — Mini Refresher Break — (Room #229) Prosper
12:30 p.m. — Pre-Luncheon Reception — Poolside
1:00 p.m. — Poolside Luncheon & Fashion Show — Poolside

FRIDAY, MAY 15, 1981

8:30 a.m. - 1:00 p.m. — Registration — (Room #220) Charleston Room
8:30 a.m. - 9:45 a.m. — Chas. Continental Breakfast — (Room #229) Prosper
10:00 a.m. - 12:15 p.m. — House of Delegates Meeting — (Room #213) Palmetto State
11:30 a.m. — Mini Refresher Break — (Room #229) Prosper
12:30 p.m. — Pre-Luncheon Reception — Poolside
1:00 p.m. — Low Country Luncheon in Honor of State Past Presidents — Cotillion Ballroom A
2:00 p.m. - 3:00 p.m. — Post Convention Board Meeting — Cotillion Ballroom A
3:15 p.m. - 5:15 p.m. — House Tour in Old Charleston with Wine Spritzers Interlude
5:30 p.m. — "Newsletters Can Be Fund" — Suite #1209
7:00 p.m. — S.C.M.A. Reception — Peacock Promenade
8:00 p.m. — Antebellum Plantation Feast sponsored by SOCPAC & S.C.M.A. — Cotillion Ballroom (reservations directly to SCMA)

SATURDAY, MAY 16, 1981

10:00 a.m. - 2:30 p.m. — Plantation Tour & Luncheon
12:30 p.m. — S.C.M.A. President's Luncheon — Cotillion Ballroom A & B (reservations directly to SCMA)
7:30 p.m. - 8:30 p.m. — President's Reception — Cotillion Ballroom A & B (reservations directly to SCMA)

All TOUR buses depart promptly in front of the Sheraton Charleston Hotel

SCMA AUXILIARY PRE-REGISTRATION AND ADVANCE TICKET SALES

REGISTRATION: Hospitality Center in the Charleston Room #220

Wednesday, May 13, 1981 3:00 p.m. - 5:00 p.m.
Thursday, May 14, 1981 8:30 a.m. - 5:00 p.m.
Friday, May 15, 1981 8:30 a.m. - 1:00 p.m.

Packets containing tickets will be held in the Hospitality Center during registration hours ONLY

		Number	Cost	Amount
Members Registration Fee			$5.00	$ _____
Non Members Registration Fee			$10.00	$ _____
Check EACH Auxiliary activity you will attend				
THURSDAY, May 14, 1981				
☐ 8:30 a.m. - 10:00 a.m.	Complimentary Mini Low Country Breakfast			
☐ 11:30 a.m. -	Executive Board Meeting Complimentary Mini Break			
☐ 12:30 p.m. -	Complimentary Pre-Luncheon refreshments			
☐ 1:00 p.m.	Poolside Luncheon & Fashion Show	_____	$10.00	$ _____
FRIDAY, May 15, 1981				
☐ 8:30 a.m. - 9:45 a.m.	Complimentary Charleston Continental Breakfast			
☐ 11:30 a.m. -	House of Delegates Meeting Complimentary Mini Break			
☐ 12:30 p.m.	Complimentary Pre-Luncheon refreshments			
☐ 1:00 p.m.	Low Country Luncheon in honor of Past State Presidents	_____	$10.00	$ _____
☐ 3:15 p.m. - 5:15 p.m.	House Tour in Old Charleston with Wine Spritzers Interlude	_____	$10.00	$ _____
SATURDAY, May 16, 1981				
☐ 10:00 a.m. - 2:30 p.m.	Plantation Tour and Luncheon based on 30 people attending	_____	$26.00	$ _____
			TOTAL (check enclosed)	$ _____

Please make check out to SCMAA Convention Fund and mail with registration form to: Mrs. Peter C. Gazes, 21 Country Club Drive, Charleston, SC 29412

Pre-registration forms received prior to May 1 will be eligible for a special door prize drawing!

No ticket purchases at the convention unless a cancellation is available.

No refunds after May 1, 1981

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OPTIONAL: You are invited to participate in the SCMA special events by purchasing tickets from the SCMA.

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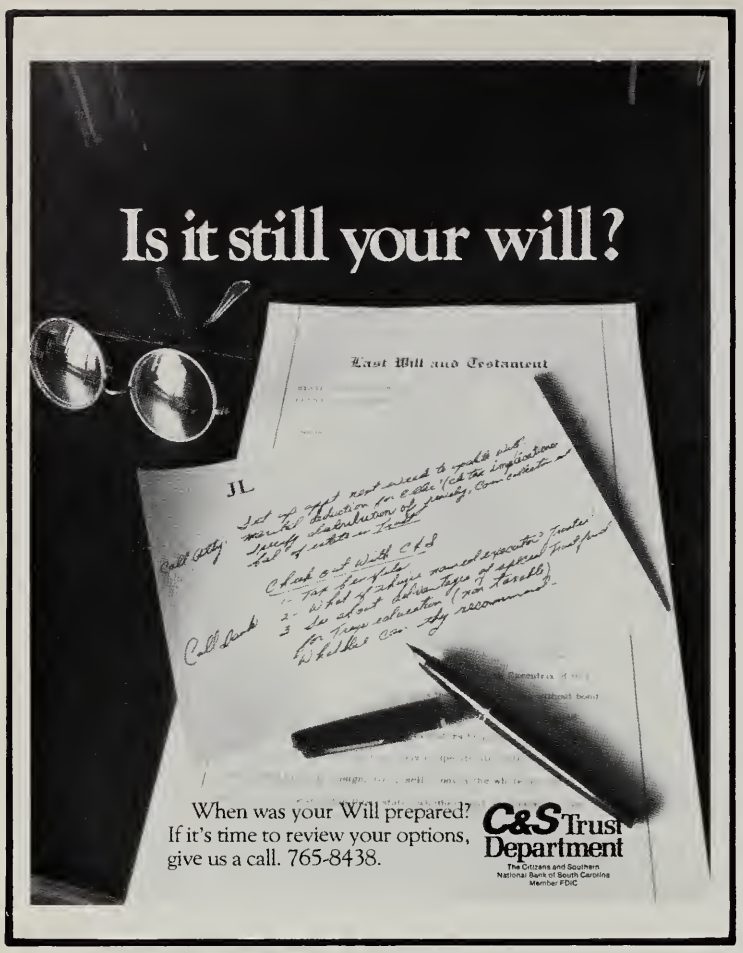

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THE JOURNAL
OF THE SOUTH CAROLINA MEDICAL ASSOCIATION
VOLUME 77 MAY 1981 NUMBER 5

THERAPEUTIC EMBOLIZATION OF EXTRACRANIAL LESIONS OF THE HEAD AND NECK

G. D. HUNGERFORD, M.D.*

Amongst those conditions which affect the head and neck, there is a group in which embolization may be either a helpful pre-operative adjunct or an alternative to surgery. Arteriovenous malformations and highly vascular tumors such as angiofibromas or glomus jugulare tumors pose formidable problems for the surgeon because of the excessive blood loss which may accompany surgery and threaten the life of the patient, or prevent total excision. Intractable epistaxis may persist despite prolonged packing of the nose or repeated surgical attempts to stop it. Some malformations may be so extensive that attempts to remove them surgically would result in severe disfigurement.

The past decade has seen rapid advances in the techniques of arterial embolization, and with this improvement there has been a wider application of therapeutic embolization to lesions in the head and neck.

TECHNIQUES

Therapeutic embolization must be undertaken carefully and methodically, allowing adequate time for all phases. An angiogram is first performed using a catheter which has been introduced percutaneously through the femoral artery. This will delineate the vascular anatomy and extent of the lesion and identify feeding vessels to a tumor or arteriovenous malformation. Such feeding vessels are often injected selectively using high-speed film changers and multiple views.

Embolization is usually performed as a separate procedure. After preliminary steroid medication for 24 hours and using local anesthesia, supplemented with intravenous demerol and diazepam, appropriate feeding vessels are catheterized, usually via a percutaneous femoral artery puncture. Several different catheters and delivery systems have been developed and the system best suited to the problem at hand is selected. In our institution we most commonly use a double lumen catheter with an inflatable balloon near its tip (Figure 1). This catheter is introduced into the target artery and the balloon is inflated, thus ensuring that no emboli can reflux proximal to the catheter and subsequently lodge in a cerebral vessel. The embolic material is then injected through the other lumen of the catheter. When occlusion of the vessel is complete, the balloon is deflated and the catheter is withdrawn. The procedure is time consuming, each session often requiring two hours or more. Depending on the number of feeding vessels to be embolized, two or more embolization sessions may be necessary. Considerable skill and experience are required in order to accomplish the necessary selective catheterizations of small arteries, and because of this and the potential risks involved, embolization procedures should only be performed by a highly trained neuroradiologist or angiographer.

Alternative methods which are sometimes

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employed include: (1) Direct percutaneous catheterization of the carotid artery in the neck. (2) "Flow-controlled" delivery of the emboli.[1] No balloon is employed and the embolic material is slowly injected under direct fluoroscopic control until flow in the vessel is almost zero and emboli no longer flow freely away from the catheter tip. (3) Detachable balloons (vide infra).

FIGURE 1 — A double lumen balloon catheter showing the inflated balloon just proximal to the catheter tip.

MATERIALS

In 1904 Dawbarn[2] conceived the idea of occluding the blood supply of facial sarcomas by direct intracarotid injection of paraffin and vaseline. Subsequently Brooks[3] in 1930 first deliberately embolized an intracranial lesion by introducing a muscle fragment into the internal carotid artery in the treatment of a post-traumatic carotid-cavernous fistula. Since then many different agents have been used for embolization of lesions of the head and neck.

The choice of agent will depend on the lesion to be treated and the purpose of the embolization. When embolization is used as a preoperative adjunct to reduce blood loss and help define tissue planes, the vessel occlusion need only be temporary and Gelfoam®* is frequently used, as experimental work shows that vessels occluded with Gelfoam recanalise within 16 weeks or less.[4] Recently, however, we have preferred polyvinyl alcohol foam[5] in the preoperative embolization of tumors because this agent produces permanent occlusion of the embolized arteries. In the event that some of the tumor is inaccessible at surgery it is conceivable that permanent occlusion of its blood supply may destroy the tumor remnant, or at least retard its growth.

Many other particulate embolic agents have been used, including autologous blood clot, silastic spheres, steel pellets, metal fillings, muscle and dura mater fragments. Most of these have been discarded in favor of newer agents such as Gelfoam or polyvinyl alcohol foam, but silastic spheres are still employed by some for intracranial[6] and extracranial embolization.

Fluid embolic agents, which include low viscosity silicone rubber compounds,[7] and glues such as isobutyl-2-cyanoacrylate,[8] are most often used for the embolization of arteriovenous malformations, but they have also been used for the treatment of tumors. These agents produce an intravascular cast after they are delivered through a catheter and thus produce permanent occlusion of the embolized vessels. Isobutyl-2-cyanoacrylate begins to polymerize instantly when it comes into contact with blood and on several occasions catheters have been glued into an artery before they could be removed.[9] Low viscosity silicone rubber compounds require one to several minutes for the polymerization process which forms the cast, but the vessel occlusion may not be as complete as that produced by the glues because the silicone rubber cast is inert and does not produce a fibrotic reaction within the vessel like that produced by glue. Fluid embolic agents are still to some extent experimental and have not yet been approved for general use, but they offer great promise, particularly in the treatment of arteriovenous malformations.

Inflatable balloons were introduced by Serbinenko.[10] A number of different types are now in use and they may be used for temporary re-

* Upjohn

versible occlusions, or the balloon may be detached and left in place to produce permanent occlusion.[11] Detachable balloons have been used with great success in the treatment of carotid-cavernous fistulae[11] and in the neck in the treatment of arteriovenous fistulae.[12]

INDICATIONS FOR EMBOLIZATION (TABLE 1)

Table I
EXTRACRANIAL VASCULAR AND NEOPLASTIC LESIONS FOR WHICH EMBOLIZATION MAY BE INDICATED

1. Intractable epistaxis
2. Vascular soft tissue tumors
   - Nasopharyngeal angiofibroma
   - Angioma
   - Glomus jugulare or vagale tumors
   - Carotid body tumors
   - Hemangioendothelioma
3. Arteriovenous malformations or fistulae
4. Vascular bone tumors
   - Aneurysmal bone cyst
   - Angioma
   - Giant cell tumor
   - Ossifying fibroma

A. Tumors

Embolization is usually used as a preoperative maneuver to reduce blood loss. Pletcher, et al[13] found a 50 percent reduction in operative blood loss in seven cases of juvenile angiofibroma when embolization was employed, compared to 16 cases which were not embolized. It is of interest that preoperative surgical ligation of the external carotid produces little or no reduction in blood loss.[14] Other tumors in which preoperative embolization may be helpful include angiomas, hemangioendotheliomas, glomus tumors, and vascular bone tumors. Sometimes embolization may be the definitive treatment (Figure 2).

B. Epistaxis

Intractable epistaxis is a life-threatening condition which may be difficult or impossible to stop by nasal packs or surgical ligation of arteries. Embolization of the internal maxillary arteries and their branches with Gelfoam or polyvinyl alcohol foam is almost invariably successful in stopping the hemorrhage, as the small emboli pass distally and occlude arteries close to the bleeding site (Figure 3). *(See next page)*

C. Arteriovenous Malformations and Fistulae

Embolization has been extensively used for treatment of cerebral arteriovenous malformations and fistulae[6, 15] but it is also successful in the treatment of such lesions when they are in the extracranial tissues, neck, and mouth. A-V fistulae are often treated with a detachable balloon.[12]

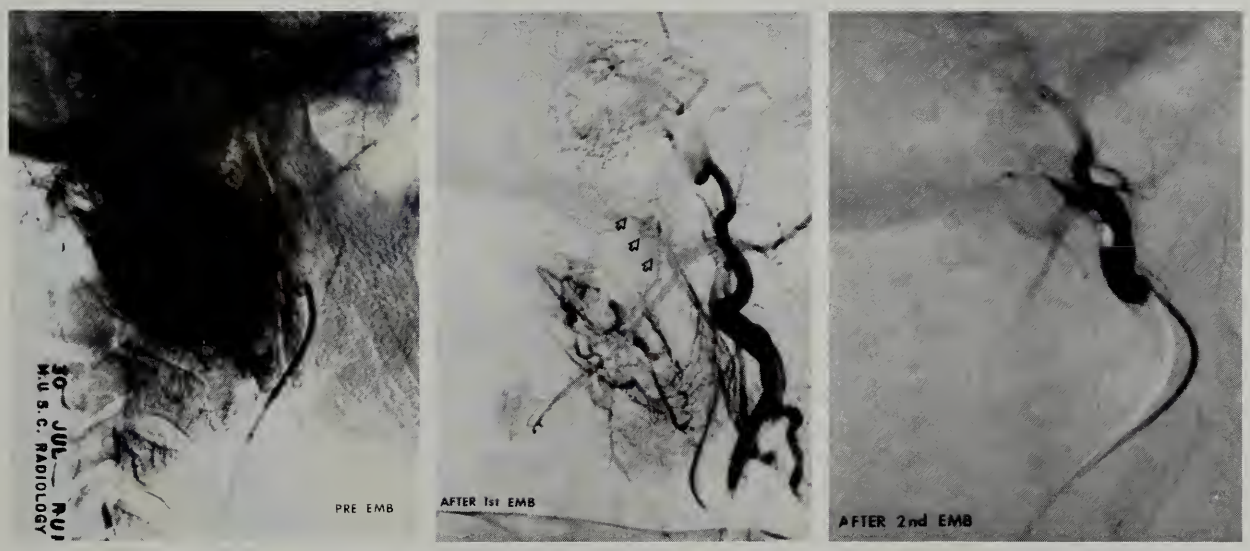

FIGURE 2 — Embolization with polyvinyl alcohol foam used as definitive therapy for a hemangioma. Several previous attempts to remove it surgically had been unsuccessful. A) Tumor prior to embolization. B) After the first embolization session. The principal feeder, the occipital artery, has been occluded (arrows). C) After the second embolization session, the other arterial feeder, a branch of the occipital artery, has been occluded and no tumor circulation at all is now visible.

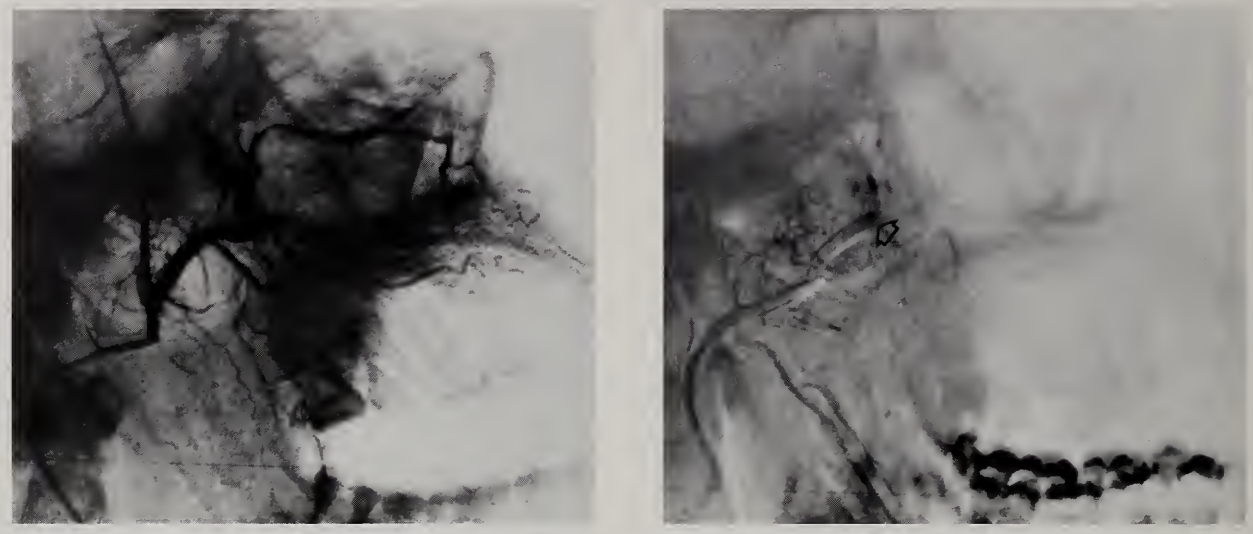

FIGURE 3A & B — Severe, intractable epistaxis (a) before embolization (b) after embolization, showing total occlusion of the distal portion of the internal maxillary artery and its branches to the nose.

COMPLICATIONS

While there are many complications which may occur, some of them serious, the actual complication rate is low. The rate has not been extensively discussed in the literature, however, in skilled hands serious complications occur in no more than 1-2% of patients treated for extracranial lesions.[7] At our institution no serious complications at all have occurred in our series to date.

The principal potential complication is reflux of an embolus out of the intended extracranial artery into an artery supplying the brain, thus leading to an embolic cerebral infarct. Several techniques have been designed to prevent this. The one which we prefer employs a double-lumen balloon catheter. By inflating the balloon proximal to the catheter tip, reflux of liquid or particulate material is prevented. Overinflation of the balloon must be avoided as a rupture of the artery can result. While tissue necrosis in the area supplied by the embolized artery can occur,[1] it is fortunately rare due to the rich anastomotic network of vessels supplying extracranial tissues. Possible local complications at the catheter puncture site include bleeding, thrombosis, and infection. Systemic reactions to the contrast agent can occur but they are rare.

SUMMARY

Therapeutic embolization of lesions in the head and neck can now be performed using percutaneous arterial catheters. A variety of techniques and embolic materials is available and the procedure should only be performed by clinicians with training and experience in angiography and embolization techniques. Embolization is used as a preoperative maneuver to control blood loss during surgery for vascular tumors, as definitive treatment for intractable epistaxis, and as definitive or palliative therapy in arteriovenous malformations and some types of tumor. □

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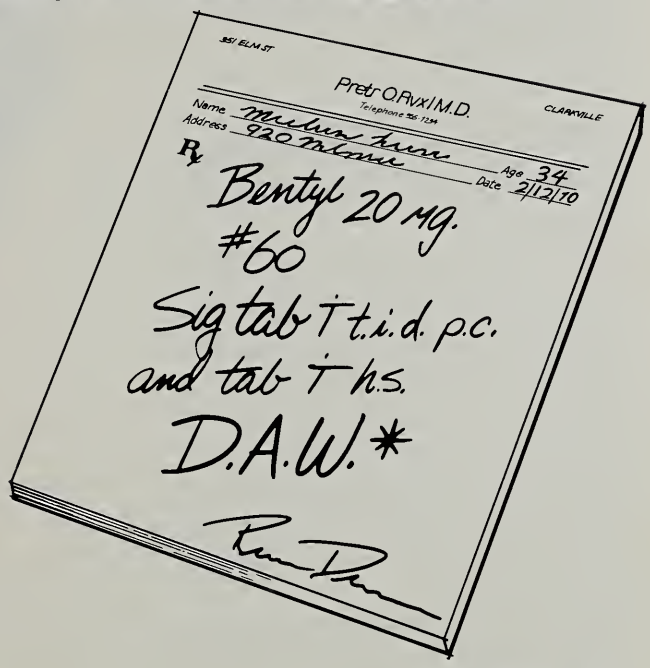

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THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS.
For use in the treatment of infant colic (syrup).
Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS: Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis); paralytic ileus, intestinal atony of the elderly or debilitated patient; unstable cardiovascular status in acute hemorrhage; severe ulcerative colitis; toxic megacolon complicating ulcerative colitis; myasthenia gravis.

WARNINGS: In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. There are rare reports of infants, 6 weeks of age and under, administered dicyclomine hydrochloride syrup, who have evidenced respiratory symptoms (breathing difficulty, shortness of breath, breathlessness, respiratory collapse, apnea), as well as seizures, syncope, asphyxia, pulse rate fluctuations, muscular hypotonia, and coma. The above symptoms have occurred within minutes of ingestion and lasted 20 to 30 minutes. The timing and nature of the reactions suggest that they were a consequence of local irritation and/or aspiration rather than a direct pharmacologic effect. No known deaths or permanent adverse effects have been reported. Bentyl syrup should be used with caution in this age group.

PRECAUTIONS: Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy.
Use with caution in patients with:
Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon.
Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension.
Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.
Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur.

ADVERSE REACTIONS: Anticholinergics/ antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia; urinary hesitancy and retention; blurred vision and tachycardia; palpitations; mydriasis; cycloplegia; increased ocular tension; loss of taste; headache; nervousness; drowsiness; weakness; dizziness; insomnia; nausea; vomiting; impotence; suppression of lactation; constipation; bloated feeling: severe allergic reaction or drug idiosyncrasies including anaphylaxis; urticaria and other dermal manifestations; some degree of mental confusion and/or excitement, especially in elderly persons; and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation.

DOSAGE AND ADMINISTRATION: Dosage must be adjusted to individual patient's needs.
Usual Dosage
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Bentyl Injection: *Adults:* 2 ml. (20 mg.) every four to six hours intramuscularly only.
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MANAGEMENT OF OVERDOSE: The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanecol chloride USP) should be used.

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GASTRIC BYPASS SURGERY FOR MORBID OBESITY: A NEW TECHNIQUE

MOREY LIPTON, M.D.*

As experience with the long term management of patients suffering from morbid obesity grows, a number of facts emerge. Morbid obesity in itself will decrease life expectancy. It is also associated with the early development of cardiopulmonary disorders, hypertension, and diabetes as well as a more accelerated course of these diseases.

Basically, the only criterion for patient selection is that they be 100 or more pounds over the calculated ideal weight. This is not to ignore the other criteria that have been held in the past for the surgical management of morbid obesity. This single criterion was adopted at the conference on morbid obesity, convened in December 1978, by the National Institute of Arthritis, Metabolism, and Digestive Diseases of the National Institutes of Health. The contraindications to the surgery are few: these are the general contraindications to any abdominal surgery, and the lack of adequate intelligence or insight of the patient to understand the procedure and its risks and to pursue the long postoperative follow-up that is required. Age, *per se*, is no contraindication.

The gastric bypass operation is an exclusion procedure which was developed by Drs. Mason and Ito[1] of the University of Iowa. It produces weight loss by restricting caloric intake without interfering appreciably with the absorptive capacity of the bowel.

METHOD:

A new technique has been developed by me for establishing an easy, precise and practical gastric bypass with the use of the Auto Suture Staplers.

Access to the abdomen is gained through a midline incision from the xiphoid to a point just below the umbilicus. The triangular ligament of the left lobe of the liver is divided and the left lobe of the liver is retracted medially exposing the gastro-esophageal region. The stomach is freed along the greater curvature from the midportion upward including the entire fundus, a suture of 3-0 silk is placed on the greater curvature to mark the site of the anastomosis (Fig. 1). The stomach pouch should be 60cc and this is usually at a site where the TA90 stapling machine will fit across without wrinkling the stomach. A small portion of the lesser curvature of the stomach is freed just distal to the gastro-esophageal junction. An opening in the anterior surface of the midportion of the stomach is made with the GIA (Fig. 2). A segment of jejunum as close to the ligament of Tritz that will reach the marked portion of the stomach without tension, is transversely clamped with the EEA clamp and a pursestring of 2-0 dermelon on a Keith needle is placed through the clamp (Fig. 3). The EEA instrument with a 25mm head (which has an inner diameter of 15mm) minus the anvil is placed through the gastrostomy opening and the shaft of the instrument is directed to and pushed through a small cut at the previously marked area of the stomach. Care must be taken not to allow the opening around the shaft to enlarge, the anvil is now placed on the shaft (Fig. 4). The previously prepared jejunum is brought up antecolic and placed over the anvil, the pursestring is tied, the EEA instrument is closed and fired creating a 15mm gastro-jejunostomy (Fig. 5). The gastrostomy opening is closed with a TA55 using 3.5mm staples (Fig. 6). The TA90 is then placed across the stomach just distal to the anastomosis using 4.8mm staples and fired (Fig. 7). Several seromuscular sutures are placed above and below the anastomosis to reduce the angulation.

DISCUSSION

The above technique for doing the gastric bypass has not been previously described. It presents certain advantages over other previously described procedures.[2] It makes a difficult anastomosis in an almost inaccessible area very easy.

* 61 Gadsden Street, Charleston, S. C. 29401.

A measured 15mm circular stoma is created which has an excellent blood supply, remains a constant size, and is free of leaks. Although most surgeons recommend a stoma of 12mm, my results using this procedure have shown no appreciable differences in weight loss from those cases done prior to its use.

RESULTS

Thirteen cases have been performed by me using this technique and three cases by two other surgeons in Charleston. All cases have shown considerable and constant weight loss (Fig. 8). No major complications, such as anastomotic leaks, subphrenic abscess, or wound infections have occurred. □

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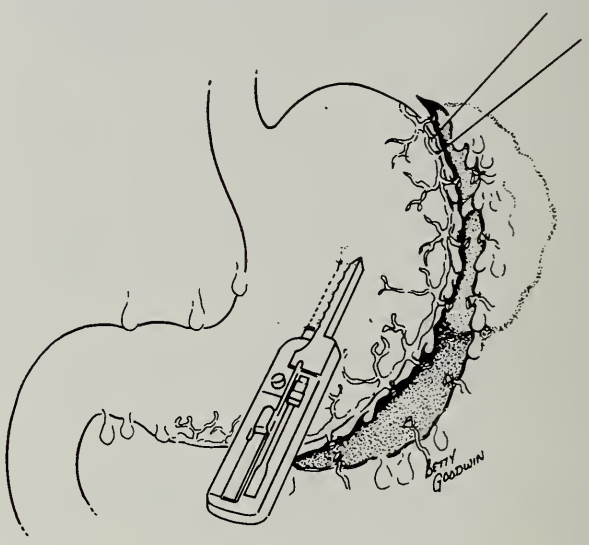
FIGURE 1



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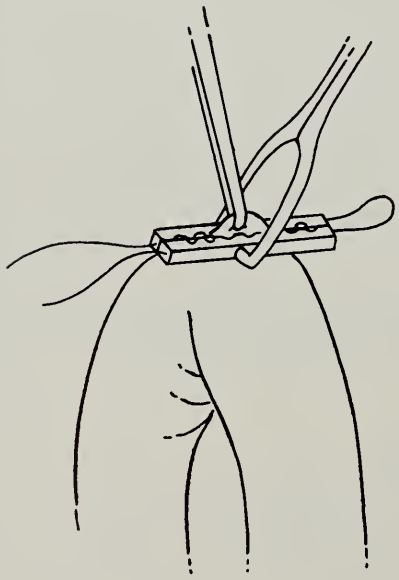

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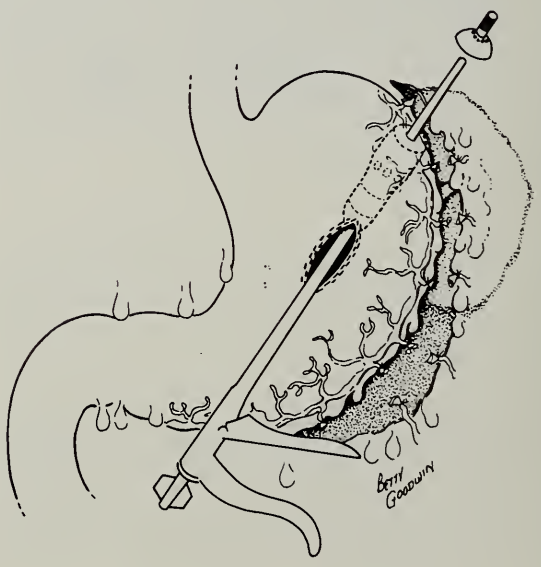

FIGURE 4

FIGURE 5

FIGURE 6

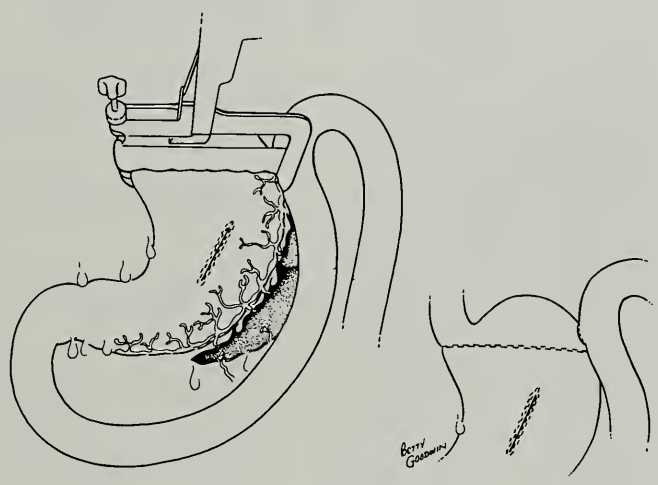

FIGURE 7

GASTRIC BYPASS

SEX	AGE	HEIGHT	INITIAL WEIGHT	IDEAL WEIGHT	DATE OF SURGERY	POSTOP 2 WKS	WEIGHT BY MONTH 1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
FEMALE	19	5'6"	237	120-135	06/03/80	216	215		199	181				168		
MALE	46	6'1"	272	154-170	06/04/80	251	237	224	217	212						
MALE	38	5'10"	337	140-155	06/06/80	301	282	272							215	
FEMALE	38	5'1"	233	104-106	06/17/80	218	210¼	201	194	188	178	173	176			
FEMALE	22	5'3"	282	110-122	07/18/80	258	250	238	227	218	212	203				
FEMALE	42	5'2"	299½	107-119	08/07/80	266	253	231	228	218	205	194				
MALE	32	5'11"	267	150-165	09/25/80	243½	227	216	201	196						
FEMALE	27	5'10"	245	136-151	10/02/80	224	212	200	191							
FEMALE	45	5'5½"	232	116-130	10/08/80	204	199	191	187							
FEMALE	35	5'4"	220	113-126	10/17/80	195	184	175	168	157						
FEMALE	26	5'10"	313	136-151	12/16/80	297½	288	272								
FEMALE	31	5'4"	212	113-126	11/25/80	202½	181	174								
MALE	30	5'9"	326	132-147	01/15/81	292	276									

FIGURE 8

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HEARING LOSS SECONDARY TO LIGHTNING STRIKE*

G. PAUL SHAW, JR., M.D.**
LARRY S. ATKINSON, M.D.***

Lightning strikes result in approximately two hundred deaths per year and have produced many unusual occurrences. Injury from lightning occurs by thermal flash, electrocution, and sonic blast. Although the physician's attention may be directed toward detecting electrically induced damage, the possibility of otologic injury should be considered in survivors of lightning strikes.

A forty-six year old Negro female presented to the Emergency Room with complaints of vertigo, nausea, and a loud roaring sensation in the left ear. The patient was talking on the telephone with the receiver to the left ear when lightning struck her telephone line during a severe electrical storm. She witnessed the bolt striking the telephone pole outside her home and simultaneously heard an explosive noise in the receiver. Following this, the patient experienced an unbearable roaring sound in the left ear. She was unable to walk due to vertigo and nausea and required assistance for ambulation.

Physical exam demonstrated an anxious, ataxic patient. Rotation and vertical movement of the head induced severe nausea. Lateral nystagmus was produced by the Hallpike maneuver. The left external canal demonstrated three small hemorrhagic areas but no burns or other skin abnormalities were noted. The anterior one-third of the pars tensous was absent. The anterior annulous was edematous and erythematous. The rest of the physical was normal.

The patient was treated with Ru-Vert, Valium and Penicillin V-K. The following day the nystagmus, vertigo and nausea subsided. No other neurological changes were noted. An audiogram was performed which demonstrated a conductive hearing loss.

* From the Anderson Family Practice Center, 600 North Fant Street, Anderson, S. C. 29621.
** Resident in Family Medicine
*** Assistant Professor of Family Medicine

DISCUSSION

Rupture of the tympanic membrane is the most common otologic injury induced by lightning.[1] In the case presented, the lightning bolt apparently produced a sudden power surge to the receiver, thereby producing a forceful, sonic shock wave to the ear. Nystagmus, vertigo, and nausea are felt to be similarly explained by the force of the shock wave upon the ear structures.

Wright and Silk presented seven cases of lightning induced damage to the ear in which acoustic and vestibular abnormalities were noted. In the five patients which were struck directly by lightning, both bilateral and unilateral tympanic perforations were noted. In two cases, tympanic membrane perforations occurred while the patients were using telephone equipment. No burns or dermal injury were noted and these patients sustained unilateral tympanic membrane rupture and prolonged hearing loss.[1] Bergstrom reported the pathologic findings in one patient struck by lightning. Tympanic membrane rupture, hemorrhage into the middle ear and mastoid areas, rupture of Reissner's membrane and injury to the seventh nerve was reported.[2] Other complications of lightning injury have included otitis media, cholesteatoma, basilar skull fracture, avulsion of the mastoid, peripheral facial nerve palsy, and damage to the eighth nerve and surrounding structures.[2, 3]

Therapy of the lightning damaged ear should include clearing of blood and debris, supression of labryinthine function for symptomatic relief, and systemic antibiotics. Evaluation of hearing performance, function of the seventh and eighth nerve and the integrity of middle and inner ear structures should be performed. In most cases an otologic consultation would be advisable. The blast effect and scattering of squamous epithelium predisposes to cholesteatoma formation —

thus repair of the tympanic membrane should be delayed for six to twelve months.[4]

Lightning victims can manifest a variety of structural and neurosensory injuries produced both by the direct and indirect effects of the electrical bolt. The physician should include an otologic evaluation as part of a thorough physical and neurologic evaluation. Management of these cases will be dictated by the injuries sustained. As illustrated by this case, the recommendation to refrain from using telephone equipment during severe electrical storms would seem to be advisable. □

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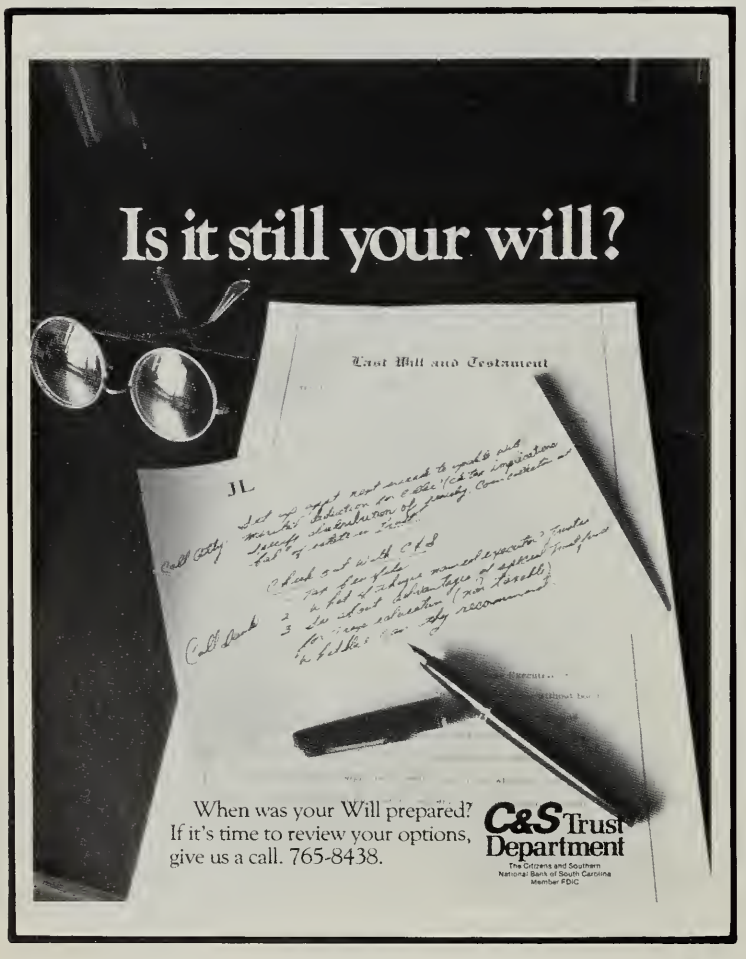

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Bronchitis and pneumonia caused by *S. pneumoniae* (formerly *D. pneumaniae*)
Otitis media caused by *S. pneumoniae* (formerly *D. pneumaniae*) and *H. influenzae*
Acute exacerbation of chronic bronchitis caused by *H. influenzae**
*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*.
SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, nonpenicillinase producers.
URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)
NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing.
Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins.
Warnings Cyclacillin should only be prescribed for the indications listed herein.
Cyclacillin has less in vitro activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.
Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.
Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.
PREGNANCY: Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.
NURSING MOTHERS: It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.
Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.
As with other semisynthetic penicillins, SGOT elevations have been reported.
As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.
Cyclacillin is not indicated in children under 2 months of age.
Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).
Dosage (Give in equally spaced doses)

INFECTION	ADULTS	CHILDREN*
Respiratory Tract		
Tonsillitis & Pharyngitis	250 mg q.i.d.	body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d.
Bronchitis and Pneumonia		
Mild or Moderate Infections	250 mg q.i.d.	50 mg/kg/day q.i.d.
Chronic Infections	500 mg q.i.d.	100 mg/kg/day q.i.d.
Otitis Media	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Skin & Skin Structures	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Urinary Tract	500 mg q.i.d.	100 mg/kg/day

*Dosage should not result in a dose higher than that for adults.
†depending on severity

Wyeth Laboratories
Philadelphia, Pa 19101

THE HAMPTON DIET PLANNER

HARRISON L. PEEPLES, M.D.*

After many years experience in treating diabetics in Hampton County, a rural county having "19% functional illiterates,"[1] I agree "that a mis-match exists between reading and comprehensive levels of the patient and the reading level of the educational material used in diabetic classes."[1]

With this hypothesis, we[2] set about to improve the quality of diabetic care rendered in my practice. A diet planner later named The Hampton Diet Planner was developed. The diet planner is a modification of the nutritionally sound ADA Diabetic Exchange System. This Planner consists of a placemat for the dining table and a group of cards that are color coded, each color indicating a major category of foods: red (meats); green (vegetables); brown (bread/starches); orange (fruit), and yellow (fats/oil and milk). In diet planning with this diet, substitution of one food for another is permissible within the major categories (colors). Food may not be exchanged between groups.

The Hampton Diet is a practical solution to the problem of providing quality diet counseling at a reasonable cost. The planner makes it possible for any patient — even those with limited reading skills — to learn his or her diet and to assume quickly total responsibility for menu planning.

This planner, in our experience, eliminates obstacles to patient education.

First, a patient does not have to read well to use the planner exchange card. Each card represents a single food selection and is color coded to correspond to the appropriate food exchange group in the diet sheet. The patient simply matches up the colors. Second, the exchange group eliminates the mechanical problem of constructing a menu. In the old system of teaching exchanges, the patient is given a diet sheet showing a list of foods more or less in this order:

		Breakfast	*Lunch*	*Dinner*	*Snack*
List I	Milk Exchange	1			1
List IIA	Vegetable Exchange	no limit	no limit	no limit	
List IIB	Vegetable Exchange			1	
List III	Fruit Exchange	1	1	1	
List IV	Bread Exchange	1	1	1	1
List V	Meat Exchange	1	2	2	
List VI	Fat Exchange			1	

* From the Hampton County Health Foundation, Inc., Hampton General Hospital, Varnville, S. C. 29944.

The Hampton Diet Planner eliminates the problem by providing the patient with a food exchange card that is removed from a file box and placed along side other menu selections on the placemat diet sheet. Comparison of the card to the diet sheet ensures correct meal planning. *Example:* If a diet placemat calls for lunch containing two red cards (meats), two brown cards (bread/starch), one to two green cards (vegetables), one orange card (fruit) and one yellow card (fats/oil and milk), the patient simply checks to see if he has the correct number of cards for each color. The resulting menu might be either a ham sandwich with lettuce and tomato, a glass of milk and an apple, or it might be roast beef, mashed potatoes, string beans, milk and a pear. In some regions of the country it might appear as a pork chop with turnip greens, corn bread, peaches and buttermilk. All fit the diet description. Third, the exchange cards eliminate confusion. A patient can quickly be taught to use the exchange cards to make selections according to the color and number on the diet placemat. We have found that it is unnecessary to go into the concepts and theories behind the card beyond the brief introduction. By working with the cards and the diet placemat, a patient develops mastery over the exchange system as well as developing dietary patterns within the framework of the diet prescription.

Recent approach to diabetic diet therapy calls for individualized diets that are lower in saturated fats and higher in complex carbohydrates than in earlier therapies. In fact, the prudent diet strongly advocates reducing the risk of cardiovascular disease through control of calories and total amount of fat consumed. Embracing this philosophy of the prudent diet, the new ADA "Meal Planning with Exchanges" encourages the use of lean meats and has switched over to skim milk as the basic component of the milk exchange group.

The Hampton System differs from the ADA "Meal Planning with Exchanges" system in only one respect. The Hampton System exchange does not subdivide meats into lean, medium and fat groups. In this respect, it is like the original ADA system. We believe the same positive results can be obtained with this system which is simpler for the patients to use. Most patients can be taught the difference between lean and fatty meats, and can be successfully instructed to trim excess fat and avoid meats and meat products that are excessively fatty.

DEFINITION OF EXCHANGE

From the dietitian point of view, certain conventions must be established in order to plan and evaluate diets. To use food exchanges in setting up a diet, one must know what constitutes the exchanges, that is to say, one must know the nutritional "common denominator" of all foods within a particular food exchange group. In a general sense, exchange groups have always had a reasonably good correspondence between the amount of food in a typical serving and the amount of food in one exchange. This does not always apply to meats, for example; one orange is equal to one fruit exchange, 8 ounces milk is one milk exchange, one cup of greens equals a vegetable exchange, and the meat exchange corresponds most closely to one ounce of meat. The average meat serving is somewhat more than the one ounce used as an exchange, thus the meat cards are labeled II or III and represents that number of exchanges.

For the convenience of those utilizing the Hampton Diet Planner we have prepared two sets of diets ranging from 1000 to 3000 calories which serve as examples of the kinds of diet plans possible using the planner. These diets are not intended to be taken as universally applicable although they may serve the dietary needs of

Food Values for Each Exchange

	Calories	*Protein (g)*	*Carbohydrate (g)*	*Fat (g)*
1 milk exchange (skim milk)	80	8	12	0
1 fruit exchange	40	0	10	0
1 meat exchange	73	7	0	5
1 bread exchange	68	2	15	0
1 fat exchange	45	0	0	5
1 vegetable exchange	28	2	5	0

some patients quite well. They are in two categories: Group A containing balanced diets which include milk products, and Group B containing diets which are nutritionally adequate but omit milk products.

Example

GROUP A

1800 CALORIE DIET

	Breakfast	*Lunch*	*Supper*	*Snack*
Meat Exchange	1	3	3	
Vegetable Exchange	0	1	1	0
Bread Exchange	2	3	3	3
Fruit Exchange	1	0	1	1
Milk Exchange		1		1
Fat Exchange	1	2	2	

Group A diet includes two glasses of skim milk. Adjusting the fat exchanges permits these diets to be used with 2% of whole milk, as well — one simply omits one fat exchange from each glass of 2% milk used in place of skim milk and two fat exchanges for each glass of whole milk.

The Group B diet represents a set of diets which allows for the omission of milk for the exchange. These Group B diets contain 2 ounces more of meat exchange, one extra bread exchange, and one less fat exchange than the corresponding diet in Group A. This dietary solution to the problem of milk avoidance does increase the patient's intake of saturated animal fats, however, and therefore it might be prudent to encourage the patient to compensate somewhat by using more fish and poultry than red meats, as well as polyunsaturated vegetable oils wherever possible.

SOME CLOSING THOUGHTS

The Hampton Diet Planner may be used as a tool for developing highly individualized diets through consultation with the patient, or it may be filled out in advance according to the standard formula kept on file for use whenever a particular diet therapy is called for. In either case, the patient should be made to feel that the diet sheet is his or her personal dietary prescription. The attitude displayed by the prescriber of the diet can be the deciding factor on whether or not the patient follows it. A diet prescription distributed like a hand bill is likely to be treated as such. The Hampton Diet Planner has been developed as an educational tool to help physicians and other health care providers who employ diet therapy become more effective in their administration by eliminating some of the common causes of patient confusion and resistance to the dietary prescription.

We have found this plan to be very useful not only for the illiterate and semi-illiterate, but as an educational tool for the young child because the diet's attractiveness creates interest and stimulating thoughts about proper food intake. We have further found that the length of time necessary to spend with a patient in teaching these basic factors is much shortened and the compliance is increased. We have prepared an explanatory document with sample diets, along with the placemat that is available for use by others desiring to use the diets. In our hand, the Hampton Diet Planner has served us well. □

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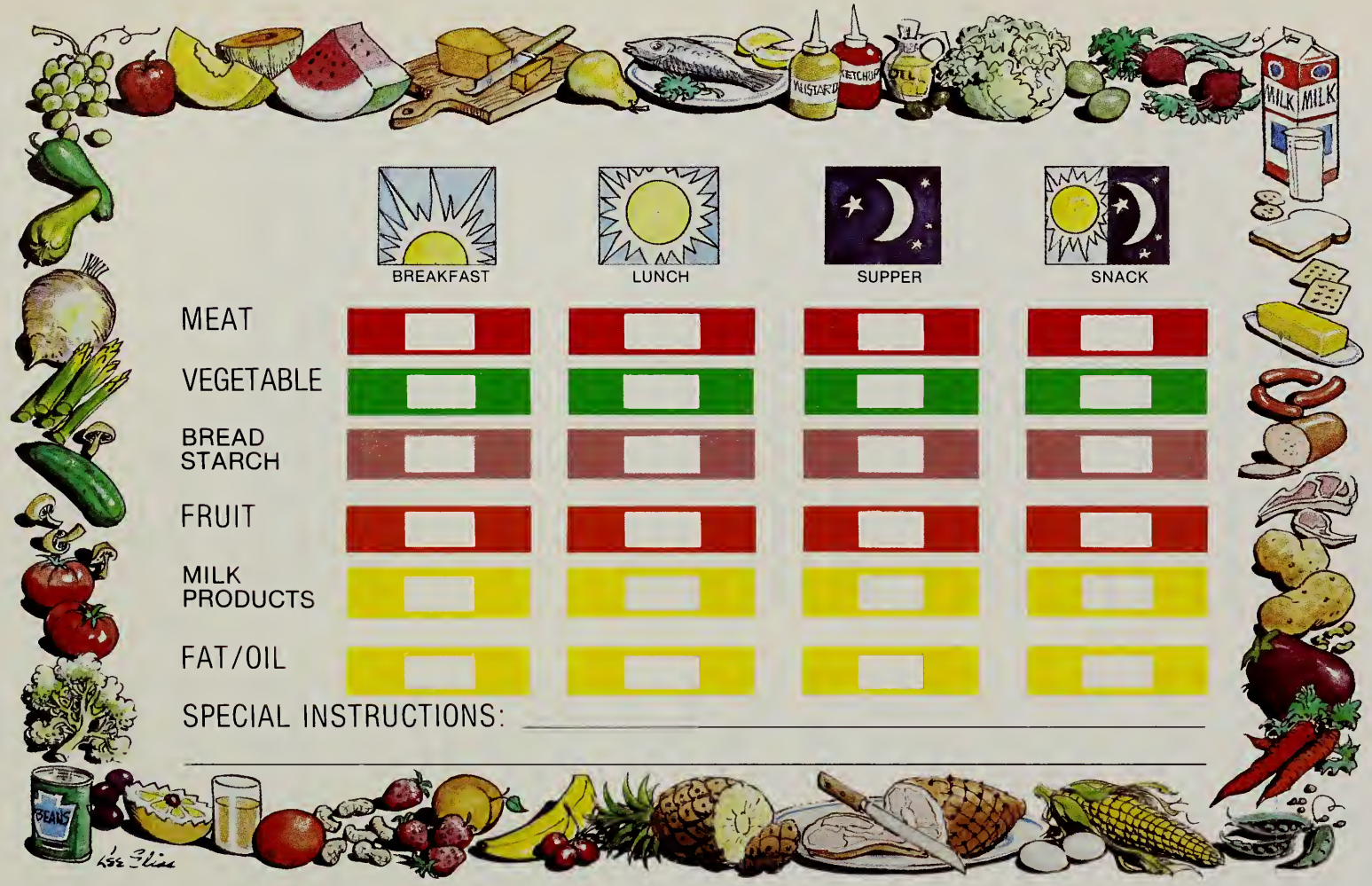
2. Joel N. Elias, M.P.H. — Principle Developer, Michael D. French, Pharm.D., and Harrison L. Peeples, M.D.

Editorial note: Consult the following two pages for examples of placemat and planner exchange cards.



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Egg

1 Medium

Pork or Lamb Chop

1 Medium Chop
(2 ounces)

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Cottage Cheese

¼ Cup

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Asparagus

½ Cup

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Squash

1 Cup

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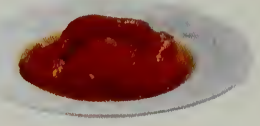
Cooked Tomatoes

½ Cup



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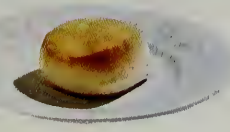
Biscuit

1 Small Biscuit
(Omit 1 fat)



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Corn Flakes

¾ Cup

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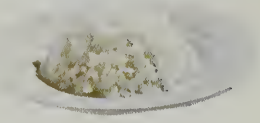
Rice (Cooked)

½ Cup



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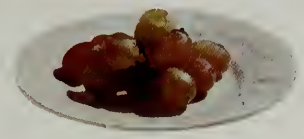
Grapes

12 Grapes



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Apple

1 Small Apple

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Banana

½ Small Banana

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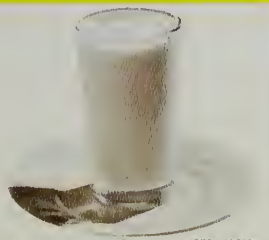
Milk

1 Cup
Whole Milk



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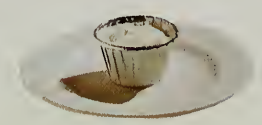
Mayonnaise

1 Teaspoon
Mayonnaise



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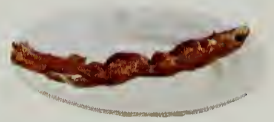
Bacon

1 Strip Crisp
Bacon



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Caution: Federal law prohibits dispensing without prescription. For external use only. Store in a cool place but do not freeze.

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Acute pain is no laughing matter.

The first prescription for the first days of acute pain

Empirin® c̄ Codeine #3

Each tablet contains: aspirin, 325 mg; plus codeine phosphate, 30 mg, (Warning — may be habit-forming). Ⓒ III

For the millions of patients who need the potency of aspirin and codeine for their acute pain.

The pain of fractures, strains, sprains, burns and wounds is at its peak during the first three to four days following trauma. The potent action of Empirin c̄ Codeine begins to work within 15 minutes of oral administration, an important advantage during this acute pain period. Empirin c̄ Codeine has unique bi-level action to attack pain at two critical points: peripherally at the site of injury and centrally at the site of pain awareness.

For the most effective dosage in treating acute pain, begin with... two tablets of Empirin c̄ Codeine #2 or #3, every four hours. Titrate downward as pain subsides.

EMPIRIN® with Codeine

DESCRIPTION: Each tablet contains aspirin (acetylsalicylic acid) 325 mg plus codeine phosphate in one of the following strengths: No. 2 — 15 mg, No. 3 — 30 mg, and No. 4 — 60 mg. (Warning — may be habit-forming.) Ⓒ III

CONTRAINDICATIONS: Hypersensitivity to aspirin or codeine.

WARNINGS:

Drug dependence: Empirin with Codeine can produce drug dependence of the morphine type and, therefore, has the potential for being abused. Psychic dependence, physical dependence, and tolerance may develop upon repeated administration of this drug and it should be prescribed and administered with the same degree of caution appropriate to the use of other oral, narcotic-containing medications. Like other narcotic-containing medications, the drug is subject to the Federal Controlled Substances Act.

Use in ambulatory patients: Empirin with Codeine may impair the mental and/or physical abilities required for the performance of potentially hazardous tasks such as driving a car or operating machinery. The patient using this drug should be cautioned accordingly.

Interaction with other central nervous system (CNS) depressants: Patients receiving other narcotic analgesics, general anesthetics, phenothiazines, other tranquilizers, sedative-hypnotics, or other CNS depressants (including alcohol) concomitantly with Empirin with Codeine may exhibit an additive CNS depression. When such combined therapy is contemplated, the dose of one or both agents should be reduced.

Use in pregnancy: Safe use in pregnancy has not been established relative to possible adverse effects on fetal development. Therefore, Empirin with Codeine should not be used in pregnant women unless, in the judgment of the physician, the potential benefits outweigh the possible hazards.

PRECAUTIONS:

Head injury and increased intracranial pressure: The respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions or a pre-existing increase in intracranial pressure. Furthermore, narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries.

Acute abdominal conditions: The administration of Empirin with Codeine or other narcotics may obscure the diagnosis or clinical course in patients with acute abdominal conditions.

Allergic: Precautions should be taken in administering salicylates to persons with known allergies: patients with nasal polyps are more likely to be hypersensitive to aspirin.

Special risk patients: Empirin with Codeine should be given with caution to certain patients such as the elderly or debilitated, and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, prostatic hypertrophy or urethral stricture, peptic ulcer, or coagulation disorders.

ADVERSE REACTIONS: The most frequently observed adverse reactions to codeine include light-headedness, dizziness, sedation, nausea and vomiting. These effects seem to be more prominent in ambulatory than in nonambulatory patients and some of these adverse reactions may be alleviated if the patient lies down. Other adverse reactions include euphoria, dysphoria, constipation, and pruritus.

The most frequently observed reactions to aspirin include headache, vertigo, ringing in the ears, mental confusion, drowsiness, sweating, thirst, nausea, and vomiting. Occasional patients experience gastric irritation and bleeding with aspirin. Some patients are unable to take salicylates without developing nausea and vomiting. Hypersensitivity may be manifested by a skin rash or even an anaphylactic reaction. With these exceptions, most of the side effects occur after repeated administration of large doses.

DOSAGE AND ADMINISTRATION: Dosage should be adjusted according to the severity of the pain and the response of the patient. It may occasionally be necessary to exceed the usual dosage recommended below in cases of more severe pain or in those patients who have become tolerant to the analgesic effect of narcotics. Empirin with Codeine is given orally. The usual adult dose for Empirin with Codeine No. 2 and No. 3 is one or two tablets every four hours as required. The usual adult dose for Empirin with Codeine No. 4 is one tablet every four hours as required.

DRUG INTERACTIONS: The CNS depressant effects of Empirin with Codeine may be additive with that of other CNS depressants. See WARNINGS.

Wellcome

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Editorials

WEIGHT CONTROL

One *raison d'être* for state medical journals is to provide a forum for original observations and innovations by practicing physicians. In this issue of *The Journal,* Drs. Lipton and Peeples make contributions to the literature on weight control.

Persons afflicted with morbid obesity experience mortality rates up to twelve times those of age-matched controls.[1] The jejunoileal bypass procedure provided a rational surgical approach to morbid obesity but was found, by experience, to carry high rates of hepatic, electrolyte, biliary, renal, infectious, and rheumatologic complications.[2] The gastric bypass procedure, such as that described by Dr. Lipton in this issue, lacks many of these complications, but a word of caution is still indicated especially in persons over age fifty.[3] It has been suggested that jaw wiring may be as effective — and safer — than either of the bypass procedures.[4]

The truisms remain that "the only gland consistently associated with obesity is the salivary gland"[5] and that *diet* is the key to both prevention and therapy. Dr. Harrison Peeples' description of a method for teaching dietary principles — for obesity, diabetes mellitus, and other conditions — suggests a practical approach to a major epidemiologic problem. Such contributions can only be applauded.

— CSB

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COST CONTROL

There is wide agreement that more judicious ordering of laboratory tests would be a major way by which physicians could contribute to the problem of controlling the spiraling costs of medical care. Sadly, like "belling the cat," few practical solutions have been offered. It might comfort us that other Western countries experience the same dilemmas. A recent editorial in *The Lancet*[1] indicated that the problem in England is almost identical to ours, and offered a number of quotable aphorisms:

". . . no satisfactory method of reducing the use of tests without irksome limitation of the clinician's freedom has been evolved."

"The finding that a prize of medical books made no difference to test ordering [by interns] is taken to signify that doctors' medical judgment is not to be influenced by financial considerations . . ."

"There are few certainties in the diagnostic process, and the comforting (if sometimes spurious) precision of laboratory results has the same appeal to the uneasy clinician as a life-belt to the weak swimmer."

"There are 'ah-hah' tests; measurements known to be abnormal in certain situations, which are ordered even when the diagnosis is established in order to satisfy the curiosity or to advertise the cleverness of the clinician."

"An unwise search for unlikely rarities which cannot be treated is an expensive hobby . . ."

"Time is the best — and cheapest — test we have."

— CSB

REFERENCE

1. Reducing tests (editorial). Lancet 1: 539-540, 1981.

Examine Me.

During the past several years, I have heard my name mentioned in movies, on television and radio talk shows, and even at Senate subcommittee sessions. And I have seen it repeatedly in newspapers, magazines, and yes, best-sellers. Lately, whenever I see or hear the phrases "overmedicated society," "overuse," "misuse," and "abuse," my name is one of the reference points. Sometimes even *the* reference point.

These current issues, involving patient compliance or dependency-proneness, should be given careful scrutiny, for they may impede my overall therapeutic usefulness. As you know, a problem almost always involves improper usage. When I am prescribed and taken correctly, I can produce the effective relief for which I am intended.

Amid all this controversy, I ask you to reflect on and re-examine my merits. Think back on the patients in your practice who have been helped through your clinical counseling and prudent prescriptions for me. Consider your patients with heart problems, G.I. problems, and interpersonal problems who, when their anxiety was severe, have been able to benefit from the medication choice you've made. Recall how often you've heard, as a result, "Doctor, I don't know what I would have done without your help."

You and I can feel proud of what we've done together to reduce excessive anxiety and thus help patients to cope more successfully.

If you examine and evaluate me in the light of your own experience, you'll come away with a confirmation of your knowledge that I *am* a safe and effective drug when prescribed judiciously and used wisely.

For a brief summary of product information on Valium (diazepam/Roche) Ⓥ, please see the following page. Valium is available as 2-mg, 5-mg and 10-mg scored tablets.

Valium® (IV)
diazepam/Roche

Before prescribing, please consult complete product information, a summary of which follows:
Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety, symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal, adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).
The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.
Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.
Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication, abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.
***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**
Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.
Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.
Dosage: Individualize for maximum beneficial effect. *Adults* Anxiety disorders, symptoms of anxiety, 2 to 10 mg b.i.d. to q.i.d., alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed, adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d., adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).
Supplied: Valium® (diazepam/Roche) Tablets, 2 mg, 5 mg and 10 mg—bottles of 100 and 500, Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10. Prescription Paks of 50, available in trays of 10.

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Editorial

HANDGUN CONTROL

O wad some Power the giftie gie us
To see oursels as ithers see us!
— Robert Burns

As this issue goes to press, the President is recovering from a gunshot wound. The assassination attempt can be expected to heighten the arguments abroad whether America — where three of the last six Presidents have been fired at with one injury and one death — can continue to be entrusted with leadership in the Free World. The attempt can also be expected to heighten the arguments concerning handgun control.

Few issues spark greater controversy. Basic rights are in opposition — on the one hand, the Bill of Rights assures the right to bear arms; on the other hand, the Declaration of Independence asserts the duty of governments to secure the rights to life, liberty, and the pursuit of happiness. Despite arguments to the contrary, the association between access to handguns and homicide seems clearcut, as was recently pointed out in one of our medical journals.[1] It seems paradoxic to hear individuals assert that "the President (or Michael Halberstam, or John Lennon, or . . .) could just as easily have been injured with a knife as with a handgun," yet seldom if ever assert that "that child could have been killed just as easily on roller skates as on a moped."

It has become clear that the issue of handgun control — like the issue of nuclear disarmament[2] is one which will not be resolved by easy formulas within the near future. A good case can be made that our profession — with its first-hand familiarity with the consequences of violence — should participate actively in the ongoing quest for solutions.

— CSB

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President's Page

FADING OUT

The later date for our Annual Convention this year has given me the opportunity to once more talk to you through this President's Page. Perhaps you shouldn't be so lucky! But then you can't always have what you want. We learn this as children when the first fences are built around us. We come to look on these fences as both restrictions and as crutches. For the rest of our lives, fences continue to be present to show us what our limits are. In the practice of medicine, we have our fences, but I know of no other profession that has as much freedom for the individual as we have as physicians. This has, to a large degree, been earned over the years, and physicians in this age continue to earn it. There are many forces working to build more fences and place limits on what we do. As individuals, we enjoy the freedom, but, in general, we are powerless to do much about these would-be fence builders. How then do we protect this precious freedom? We do as all elements of society have done in the past. We join together so as to have more strength. What do we form when we join together as physicians? We form county medical societies, specialty organizations, state and national groups to fight our battle on each level. The organization of individuals is strong only when all join together. They will not always represent our views or we would lose our title of individuals and become clones and would deserve no freedom. They represent our views most of the time, and so are democratic. Once again, how are they strong? All individuals join in order to protect the individual freedom. For the last time from me, have you joined?

All things have a beginning and an end. The very thought of this has caused many different bards, poets, and songwriters to try and capture the times in words that would truly express the moment. Shakespeare had men and women as players on that stage, who played out their parts and left. A songwriter expressed it as dreams never dying, just the dreamer. One would suppose this was meant to be a moment of high drama. I was searching for some way to express this moment when my wife came up with the perfect word — *HOORAY!* That's really dramatic, isn't it? However, I am sure it expresses the feeling that this is the last time that I will appear in print, and my own feelings that life will once again assume normalcy for a small town family practitioner. I would share a part of my experience with you.

Twelve years ago, I came on Council to serve out an unexpired term. At that time, SCMA had a part time Executive Secretary, and one part time and one full time secretary. Our office was in one room. The service rendered to the membership was about what you would expect. As the years have passed, SCMA has grown to a full time Executive Vice President and a full time staff of 19, in a million dollar building owned by the SCMA. The services now are comparable to staff size. In fact, the SCMA is involved in so many things that it is difficult to keep track of all of them. Now, with the efforts split up into Commissions, this will be easier to keep track of. From one corporation, we now have SCMA plus four subsidiaries. To have been a part of all this growth has been a wonderful experience for me, and I am deeply grateful. All the many activities of the SCMA are being done to help the people of South Carolina have better health and preserve the private practice of medicine we all enjoy. The personal freedom we all enjoy is preserved only because an organization such as the SCMA allows us to band together to accomplish things that, as individuals, we would be unable to do. We would be like sheep put to the slaughter. As free individuals in a group, we can accomplish much. As the stereo fades out "Auld Lang Syne," remember that —

MEMBERSHIP IS UNITY FOR STRENGTH!

HALSTED M. STONE, M.D., *President*

DRAMATIC NEW CLINICAL PROOF*

In the treatment of impetigo–

- **100% cure rate with Tegopen®** (cloxacillin sodium)
- **only a 60% cure rate with penicillin V-K**

As seen on admission

After one week of penicillin V-K therapy

Two weeks after initiation of TEGOPEN therapy

Treatment failure was judged to have occurred when lesions increased in size and/or number during the initial week of treatment with penicillin V-K. *No* treatment failures occurred with Tegopen.

*Data on file, Bristol Laboratories.

Brief Summary of Prescribing Information

TEGOPEN®
(cloxacillin sodium)
Capsules and Oral Solution

For complete information, consult Official Package Circular. (12) 9/11/75

INDICATIONS:

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

IMPORTANT NOTE

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

CONTRAINDICATIONS:

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

RESULTS OF ORAL THERAPY revealed a high percentage of treatment failures with penicillin V potassium, but *no* failures with Tegopen.

		Given Tegopen® *(cloxacillin sodium)*	Given *penicillin V-K*
Staphylococcus aureus	(78 patients)	39	39
Returned to clinic at one week		29†	38†
Treatment failure at one week		0	18 (47.4%)
Staphylococcus aureus* and *Streptococcus pyogenes	(9 patients)	4	5
Returned to clinic at one week		4	5
Treatment failure at one week		0	2 (40%)
No initial bacterial growth	(14 patients)	9	5
All 14 healed, regardless of which antibiotic was administered.			
Beta-hemolytic *Streptococcus*	(1 patient)	0	1
TOTALS:	**102 patients**	**52 patients**	**50 patients**

†Eleven patients did not return for their one-week checkup. These were all called by telephone, and their families reported the lesions had healed. One patient was dropped from the study, early, because of adverse reaction to medication.

STUDY: DESCRIPTION/PROTOCOL

- 102 nonselected subjects, with initial bacteriology as follows: 77% *Staphylococcus aureus,* 9% mixed *Staphylococcus aureus* and *Streptococcus pyogenes,* and 1% beta-hemolytic *Streptococcus*.‡
- All patients were given randomized therapy—Tegopen capsules or oral solution, or penicillin V-K tablets or oral solution, in recommended dosages according to body weight.
- All patients were evaluated after one week's therapy. If there was no improvement, therapy was switched to the other antibiotic. The "other antibiotic" proved to be Tegopen 100% of the time because no treatment failures had occurred with Tegopen.
- A final assessment of progress was made two weeks after initiation of Tegopen therapy.

‡The remainder, to equal 100%, consisted of 14 patients (13%) who exhibited no initial bacterial growth. These 14 were all healed, whether given Tegopen or penicillin V-K.

TEGOPEN®
(cloxacillin sodium)
–effective therapy for staph infections of the skin and skin structures

WARNING:

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

Safety for use in pregnancy has not been established.

PRECAUTIONS:

The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

ADVERSE REACTIONS:

Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

USUAL DOSAGE:

Adults: 250 mg. q.6h.

Children: 50 mg./Kg./day in equally divided doses q.6h. Children weighing more than 20 Kg. should be given the adult dose. Administer on empty stomach for maximum absorption.

N.B.: INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.

SUPPLIED:

Capsules—250 mg. in bottles of 100. 500 mg. in bottles of 100.
Oral Solution—125 mg./5 ml. in 100 ml. and 200 ml. bottles.

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AUXILIARY PRESIDENT'S REPORT

TOGETHER, we have reached our goals, for the accomplishments of South Carolina Auxilians have been outstanding.

Under the untiring direction of Sheila Davis, we have increased our membership to 1,482. We have newly organized Aiken and Georgetown counties. Hope Grayson has brought in 78 Resident/Student Spouse members. We welcome these new young members. They are the future of the medical auxiliary. These increases have given us another delegate to the national convention and another county president-elect to Fall Confluence in Chicago.

South Carolina Auxilians have continued the "Shape Up for Life" theme by stressing physical fitness, and puppet shows on nutrition have helped students learn good eating habits.

Almost 500 South Carolina tote bags (designed to raise funds for AMA-ERF) have been sold. The Christmas sharing card has helped bring our total to almost $18,000 for AMA-ERF. Other fund raisers across the state have been tremendously successful. Eleven new projects have been deposited in the PROJECT BANK in addition to the 53 we already have published.

Our statewide Drug and Alcohol Abuse Workshop, chaired by Nancy Almond, was extremely well received. The talk by H. Stephen Glenn was so impressive that National hopes to use him for Fall Confluence! A video tape series by Mr. Glenn is being shown on closed circuit television during convention at the Sheraton Charleston. Don't miss it!

At the request of SCMA, we have a newly organized committee on the impaired physician. In conjunction with our developing concern with the problems created by drugs and alcohol, I attended the White House Conference on Prescription Drug Misuse, Abuse and Diversion in Washington. This will be a continuing project for the Auxiliary.

The Day at the Legislature that Skippy Adkins and Mary Ivester diligently organized in conjunction with SCMA received good response and consisted of attending the afternoon session of the legislature followed by a reception to express our views in a social atmosphere.

We currently have five students receiving loans from our STUDENT LOAN FUND — four at MUSC and one at Bowman-Gray. HEALTH CAREERS are supported through scholarships, Health Careers Fairs and sponsoring of Candy Stripers.

We continue to work actively in the area of CHILD PROTECTION. In cooperation with SCMA, we are printing and distributing a copy of portions of the South Carolina Child Protection Act which specifically relate to physicians.

Health education and awareness play a major role in our activities. Collection of pharmaceuticals, CPR courses, poison prevention, GEMS, Death and Dying, hypertension screening, Vial of Life, Smoking Sam, parenting, immunization, Reach to Recovery, play and music therapy are some of the areas of involvement.

BENEVOLENCE FUND has been increased by $558 through donations by four auxiliaries. The SCMA auxiliary seal has had a facelift as we wind down the auxiliary year.

The South Carolina Medical Association has requested auxiliary assistance in developing a new look for our annual convention. Athena Gazes has worked diligently on this project.

We have voting representation on four SCMA committees — Legislation, Long Range Planning, Impaired Physician and Convention. SCMA members read our activities through this *Journal* auxiliary page and we reach our own members through the publication of SCAN.

I think you will agree that we have REACHED our goals. This has been a year of which we can be very proud!

MRS. ARTHUR M. LABRUCE, *Past President*, SCMA Auxiliary

THE JOURNAL
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STUDIES ON THE PATHOGENESIS OF DIABETIC VASCULAR DISEASE

JOHN A. COLWELL, M.D., Ph.D.*

It is generally recognized that accelerated vascular disease is the leading cause of mortality and morbidity in patients with diabetes mellitus. Diabetics have been found to be twice as prone as nondiabetics to heart attacks, five times more prone to gangrene, 17 times more susceptible to renal failure, and 25 times more prone to blindness. Pathologists have recognized that diabetics not only suffer from an accelerated form of atherosclerosis, but that they also have a distinct type of vascular involvement of the small blood vessels in virtually every organ of the body. Thus, the problem of vascular disease in diabetes is complicated, widespread, and of immense public health importance. It has, therefore, been critical to determine what factor or factors are peculiar to the diabetic state which may contribute to vascular disease and to plan rational therapeutic programs designed to forestall the development of the devastating consequences of vascular disease in the diabetic patient.

Our approach to this problem has been to identify the probable pathogenesis of large and small vessel disease and to explore various parts of the pathogenetic scheme in great detail in diabetics and in appropriate control subjects. It is the purpose of this paper to briefly review this work in hopes that an increased understanding and appreciation of the complex problem of vascular disease in diabetes mellitus will emerge.

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While it is abundantly clear that much remains to be done, a review of the present status of the work could serve as a stimulus to future investigations. Recent studies have suggested schemata for the development of atherosclerosis and of microvascular disease (Table I). These have been reviewed in other publications.[1-5] Our collaborative studies have concentrated on five areas: (1) Endothelial injury, (2) Platelet aggregation and prostaglandin metabolism, (3) Platelet-active plasma factors, (4) Clinical studies of antiplatelet agents in diabetic vascular disease and (5) Lipids and lipoproteins.

PRINCIPAL FINDINGS

Endothelial Injury

In the diabetic state, a number of abnormalities of endothelial function have been found. Thus, there may be decreased lipoprotein lipase activity, fluoroscein leakage into the vitreous of the eye, decreased production of prostacyclin, a prostaglandin which is a vasodilator and an antiplatelet agent, and decreased production of the enzyme plasminogen activator which catalyzes the conversion of plasminogen to plasmin which, in turn, may activate fibrinolysis.

In collaboration with Dr. K. E. Sarji, we have used plasma levels of von Willebrand Factor (vWF), a glycoprotein manufactured by endothelium, as an indicator of endothelial damage in diabetes mellitus.[6] This material may be important in the pathogenesis of atherosclerosis, since experimentally induced atherosclerosis

Table I
POSTULATED SCHEMES FOR DEVELOPMENT OF ATHEROSCLEROSIS AND MICROVASCULAR DISEASE

Atherosclerosis	*Microvascular Disease*
	Functional Changes
Endothelial Injury	Endothelial Injury
Platelet Adhesion	Platelet Adhesion
Platelet Aggregation & Release	Platelet Aggregation & Release
Smooth Muscle Proliferation	Basement Membrane Thickening
Collagen, Glycosoaminoglycan Accumulation	Increased Plasma Viscosity
Lipid, Lipoprotein Accumulation	RBC Aggregation
Thrombosis	Microthrombosis

cannot be produced in pigs which lack vWF and vWF is important for platelet adhesion. Plasma vWF levels are elevated in a number of diabetic patients, suggesting endothelial injury. Elevated plasma vWF levels in diabetics were not altered, except in a few patients, by intensive therapy for 2-3 weeks with multiple doses of insulin. We concluded from these studies that endothelial damage, as indicated by elevated plasma vWF levels, was present in the diabetic state, but was not easily reversible by insulin.

In our current studies of endothelial function in diabetes, we are determining the endothelial release of prostacyclin before and after intensive metabolic control with insulin in a group of insulin-dependent diabetic subjects.

Platelet Aggregation and Prostaglandin Metabolism

This problem has been a primary area of research in our laboratories. Our observations in this area are described in detail in the accompanying publications.[6-10] In collaboration with Dr. J. Sagel and colleagues, we showed that there is an increased sensitivity of platelets to aggregating agents in the majority of patients tested.[7] Some studies in animals and man[1-10] have suggested that the abnormality may precede clinically apparent vascular disease, a fact which would be of great importance in understanding the potential significance of this finding.

We have been particularly interested in exploring possible biochemical events which may account for heightened platelet sensitivity in diabetes mellitus. Early in the course of our work, we recognized that the abnormality in diabetes was confined to the platelet release reaction (Fig. 1). This response could be inhibited by the cyclo-oxygenase inhibitors 5,8,11, 14-eicosatetraynoic acid (TYA) and acetyl salicylic acid.[7] This provided indirect evidence that platelet prostaglandin metabolism (Fig. 2) was altered in diabetes, and we therefore devised experiments, in collaboration with Dr. P. V. Halushka, to determine if this was the case. In our first series of studies, we determined the levels of prostaglandin E_2 after stimulation of platelets in insulin-deficient diabetics and control subjects.[8] Platelets from diabetics released more PGE_2-like material than did control platelets after stimulation by ADP, epinephrine, collagen, and arachidonic acid. This suggested increased prostaglandin synthesis in platelets from diabetics.

Subsequently, it was shown that the most potent pro-aggregant produced by platelets from arachidonic acid was thromboxane (Fig. 2). Halushka *et al.* found that thromboxane synthesis was increased in platelets obtained from diabetic subjects compared to matched controls.[10] Levels of thromboxane found after arachidonic acid stimulation of platelets correlated well with plasma glucose obtained at the time of the study in the diabetic subjects. This suggested a possible direct or indirect influence of the abnormal glucose metabolism and/or insulin deficiency of the diabetic state on arachidonic acid metabolism in platelets. It seemed logical to propose that if the increased thromboxane synthesis by platelets obtained from diabetic subjects was playing a role in the enhanced platelet aggregation, then platelets should be less sensitive to inhibition by imidazole, a thromboxane synthetase inhibitor, when compared to matched control subjects. We have recently shown that this is the case.[10] Further, platelets from diabetics are less sensitive to the inhibitory action of 13 azaprostanoic acid, a thromboxane receptor antagonist, than matched controls. These observations are consistent with the notion that the increased throm-

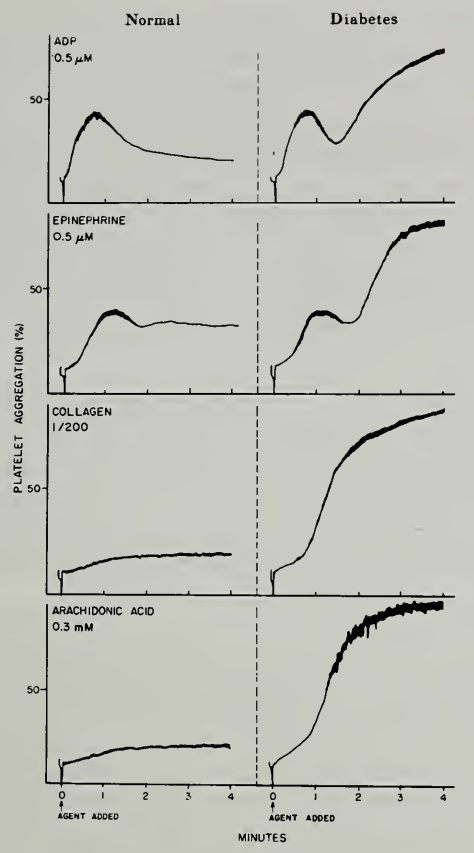

FIGURE 1 — Platelet aggregation curves in a control and diabetic subject. (ADP = adenosine diphosphate) Reprinted with the permission of the editors of Arch. Intern. Med. 139:225-230, 1979.

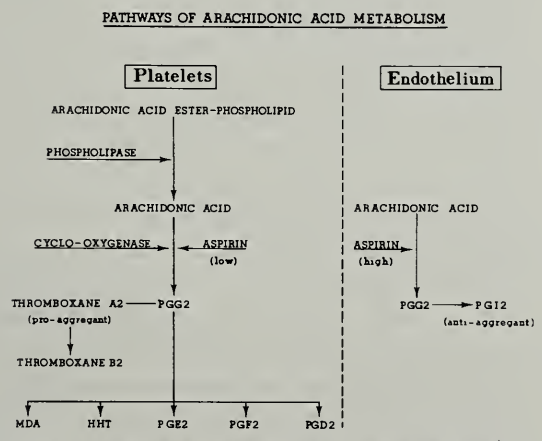

FIGURE 2 — Pathways of arachidonic acid metabolism in platelets and endothelium. Reprinted with the permission of the editors of Diabetes Care 4:121-133, 1981.

boxane synthesis plays a casual role in the enhanced aggregability of platelets obtained from diabetic subjects.

Recently, we have been studying the effects of very careful metabolic control with closed loop and open loop insulin delivery on platelet prostaglandin metabolism in diabetes mellitus. Preliminary results suggest that careful metabolic control with insulin will lower platelet thromboxane production in insulin-deficient diabetic patients.

Platelet-active Plasma Factors

In early work, we demonstrated that the plasma of certain diabetic patients, particularly those with advanced retinopathy and nephropathy, contained activity which would potentiate ADP-induced platelet aggregation.[9, 11] This activity was termed platelet aggregation enhancing factor (PAEF). In collaboration with Dr. R. M. G. Nair, we have done preliminary characterization of PAEF from the plasma of several diabetic patients and have found several relatively low molecular weight fractions which potentiate ADP-induced platelet aggregation. Further work on the characterization of these factor(s) is underway.

Immune complexes are plasma factors which may act to potentiate platelet aggregation. Recently, with Dr. G. Virella, we have performed studies of immune complex activity in a heterogeneous group of diabetic patients and have found that about 25-30% of such subjects have elevated plasma immune complex levels. In a small group of diabetic patients with elevated activity, we have found that immune complexes purified from plasma are platelet-active. These results suggest to us that immune complexes may be one diabetic plasma factor which may alter platelet behavior.

Significance

One of the problems with assessing the importance of abnormal platelet behavior in the diabetic state is that most of the observations of abnormal platelet function have been made in the laboratory, using *in vitro* techniques on platelet-rich plasma. Several lines of evidence suggest that abnormal platelet behavior is operative *in vivo* in patients with diabetes mellitus. Diabetics may have increased platelet turnover and elevated plasma levels of beta thromboglobulin, a

platelet-active protein which is released during platelet aggregation.[1-5] These findings are compatible with the idea that platelets may be aggregating *in vivo* and releasing intracellular materials into the circulation. The abnormalities of platelet function reported in diabetes are summarized in Table II. It is not possible at this phase of the work to determine if these abnormalities contribute to, are the result of, or bear no relationship to diabetic vascular disease.

Table II
PLATELET FUNCTION ABNORMALITIES IN DIABETES MELLITUS

Increased platelet adhesiveness
Hypersensitivity to platelet aggregating agents
Increased thromboxane production
Platelet-plasma interactions
- Platelet aggregation enhancing factor (PAEF)
- von Willebrand Factor
- Immune complexes

Increased platelet turnover
Increased plasma beta thromboglobulin levels.

Cooperative Studies

Because of the possibility that altered platelet function could play a role in diabetic vascular disease (Table I), we planned a large scale cooperative study on the use of antiplatelet agents in diabetic vascular disease. The study was first conceived in 1975, when it was apparent that platelet hypersensitivity was present in the diabetic state and that the *in vitro* defect was inhibited by aspirin and other drugs which inhibit the platelet cyclo-oxygenase pathway (Fig. 2). As the story unfolded in subsequent years (vide supra), elevated production of thromboxane and of prostaglandins from arachidonic acid by platelets from diabetics made the use of a drug such as aspirin an attractive one. Accordingly, in March 1977, we activated a 10 hospital cooperative study on the use of aspirin (325 mg tid) plus dipyridamole (75 mg tid) as a VA Cooperative Study. The study is a double blind study, with diabetic patients with recent amputation for gangrene of the lower extremity as the entry group. The natural history of this disorder suggests that about 30% of patients will die a vascular death in three years and that an additional 20-30% will suffer subsequent amputation of part or all of a lower extremity in that time span. We set out to determine if aspirin plus dipyridamole would decrease the number of patients with vascular deaths and subsequent amputations for gangrene over a three-year period when compared to the placebo group.

The study is now in its fourth year. The anticipated goal of 231 patients has been recruited and entered in the study. Patient groups are well matched at baseline. There have been 30 deaths to date, and an additional 41 patients have had amputation for gangrene. Compliance has been good, and dropout rate is low. As a double-blinded study, no information or drug effects will be available until completion of the study in April, 1983. We expect, however, that the study will provide important information on the use of antiplatelet agents in diabetic lower extremity vascular disease and will also provide valuable data on the natural history of vascular disease in diabetes mellitus.

It should be noted, however, that subsequent advances in research in vascular disease has suggested that the dosage of aspirin chosen for this study may be too high. One 325 mg tablet of aspirin is sufficient to acetylate the platelet cyclo-oxygenase enzyme and render it inactive in converting arachidonic acid to prostaglandins (Fig. 2). Vascular endothelium also contains this enzyme, which catalyzes the conversion of endothelial arachidonic acid to prostaglandin endoperoxides (PGG_2, PGH_2) and to prostacyclin (PGI_2, Fig. 2). A higher dose of aspirin is needed to inhibit the endothelial cyclo-oxygenase. Doses such as 325 mg tid of aspirin will inhibit prostacyclin production in man, but endothelial cells, in contrast to platelets, may recover rapidly by synthesizing new enzyme molecules. However, endothelial production and release of prostacyclin appears to be depressed in the diabetic state. Thus, it is entirely possible that the dosage of aspirin chosen in this and many other studies may inhibit endothelial prostacyclin production and, therefore, remove this possible protective mechanism against platelet deposition on vascular walls. On the other hand, since dipyridamole has antiplatelet actions through other mechanisms, and since the combination of aspirin plus dipyridamole has been shown to be an effective antithrombotic combination in an animal model of diabetes, perhaps this fear that the aspirin dose may be too high is premature. Recently, based on the possible involvement of platelets in diabetic retinopathy, the National Eye Institute has started a large scale study on the use of low doses

of aspirin in that disorder. A small cooperative study using antiplatelet agents in patients with diabetic retinopathy is also underway in Europe. It is only through prospective studies such as these that we can determine if the use of antiplatelet agents is of value in forestalling the development of large or small vessel disease in diabetic patients. Until the results of these studies are available, the agents should not be used with these goals in mind.

Lipids and Lipoproteins

The atherosclerotic plaque is rich in cholesterol and in cholesterol esters. Low density lipoproteins (LDL) are major contributors to cholesterol accumulation in the atherosclerotic lesion. Very low density lipoproteins (VLDL) may contribute by providing substrate for hepatic production of intermediate and low density lipoproteins. High density lipoproteins (HDL) may act to protect against local cholesterol accumulation, either by blocking LDL delivery or by facilitating cholesterol removal from tissues.

With the recognition of the important role of HDL in protecting against atherosclerotic accumulation of cholesterol, it seemed important to us to explore its metabolism in patients with diabetes mellitus. In collaboration with Dr. M. F. Lopes-Virella, we were among the first to report that many adult diabetics had low fasting HDL cholesterol levels.[12] This was not necessarily related to elevated plasma triglyceride levels or obesity, was present in those with advanced vascular disease, and was particularly apparent in patients who were in poor metabolic control. Subsequently, we did similar studies in a group of young insulin-dependent diabetics and found that these patients, particularly those in poor metabolic control, frequently had elevated serum LDL cholesterol and lowered HDL cholesterol levels. We were able to show in longitudinal studies that careful treatment with insulin could reverse these abnormalities.

More recently, we have been interested in the possibility that altered LDL metabolism by cells in diabetics may be present. We have compared the handling by fibroblasts of LDL isolated from diabetics before and after metabolic control with insulin and have found that LDL isolated from diabetic patients in poor control are internalized and degraded by fibroblasts at a lower rate than those isolated from the same patients after tight metabolic control with insulin. We are currently planning studies to explore possible mechanisms involved. Our present research findings suggest that elevated plasma LDL, lowered plasma HDL, and deficient handling of LDL by cells are present in the poorly controlled diabetic state. These abnormalities would be expected to accelerate the development of atherosclerosis.

DISCUSSION

It is apparent from this review that the problem of vascular disease in diabetes mellitus is a complex one. Much research work of a basic and of a clinical nature remains to be done. However, a reasonable scheme for the pathogenesis of atherosclerosis and microvascular disease in the diabetic has been developed (Table I) and a variety of studies have begun to unravel possible mechanisms involving abnormal platelet, prostaglandin, and lipoprotein metabolism in the diabetic state.[1-12] It is hoped that future research will successfully develop therapeutic approaches which will forestall the development of the devastating vascular complications of diabetes mellitus. Encouraging developments are presently underway. □

ACKNOWLEDGEMENTS

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†Eleven patients did not return for their one-week checkup. These were all called by telephone, and their families reported the lesions had healed. One patient was dropped from the study, early, because of adverse reaction to medication.

STUDY: DESCRIPTION/PROTOCOL

- 102 nonselected subjects, with initial bacteriology as follows: 77% *Staphylococcus aureus,* 9% mixed *Staphylococcus aureus* and *Streptococcus pyogenes,* and 1% beta-hemolytic *Streptococcus*.‡
- All patients were given randomized therapy—Tegopen capsules or oral solution, or penicillin V-K tablets or oral solution, in recommended dosages according to body weight.
- All patients were evaluated after one week's therapy. If there was no improvement, therapy was switched to the other antibiotic. The "other antibiotic" proved to be Tegopen 100% of the time because no treatment failures had occurred with Tegopen.
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‡The remainder, to equal 100%, consisted of 14 patients (13%) who exhibited no initial bacterial growth. These 14 were all healed, whether given Tegopen or penicillin V-K.

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PRECAUTIONS:

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As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

ADVERSE REACTIONS:

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CLINICAL MANIFESTATIONS OF NONTYPHOID SALMONELLOSIS IN CHILDREN ADMITTED TO A COMMUNITY HOSPITAL*

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Reports of nontyphoid salmonellosis in South Carolina are increasing.[1] Of the typical syndromes caused by these gram-negative bacilli, uncomplicated gastroenteritis is the most frequent.[4] Over one-half of Salmonella isolates are in children under five years of age, and the incidence is highest in the first year of life.[5] In young infants with Salmonella enteritis, the physician must rely on clinical criteria to differentiate this significant pathogen from other causes (rotavirus, etc.) of diarrhea.[3] The present study was designed to examine the clinical manifestations of nontyphoid Salmonella infections in children admitted to a community hospital in South Carolina.

METHODS

Anderson Memorial Hospital records of all patients less than sixteen years old admitted between January 1, 1975 and December 31, 1979, with nontyphoid Salmonella isolated from stool were reviewed. Information regarding age, presenting complaint, admitting diagnosis, diarrhea, vomiting, fever, WBC counts, blood cultures, and associated clinical and laboratory features was obtained.

RESULTS

Twenty-seven children had nontyphoid Salmonella isolated from stool specimens during the five year period. Laboratory evaluation and therapy were determined by the attending physician. No patient was reported to have an abnormality of red cell hemoglobin or pre-existing disease, and none were receiving immunosuppressive therapy. No patient was treated prior to admission, and Salmonella was not mentioned as a possible etiologic agent in any child prior to culture report.

The ages ranged from two weeks to fourteen years. Fifteen of the patients (56%) were less than one year, and twenty-one (75%) were less than six years of age. Infants in the first six months of life accounted for nine admissions (33%). There was a slight male predominance (15/27 patients). Sixty-three percent of the admissions (17/27) were during the summer months and the majority of these (10/17) were during September.

Diarrhea was the most prevalent clinical manifestation, occurring in twenty-six patients (96%). Most of the stools were clear or greenish watery, and only two specimens were described as bloody. Clinical and/or laboratory evidence of dehydration was present in eight children (30%). Frank dysentery was not a feature in any patient. Vomiting occurred in fourteen patients (52%) but subsided soon after admission. Abdominal pain was recorded in only five children (19%). Total WBC counts were usually normal (16/27). Admission temperature was greater than 101°F in seventeen patients (63%).

Blood cultures were obtained in ten children, and were positive for the same organism as the stool culture in seven (Table I). Four of the positive cultures were in infants less than six months old (Table II). All four infants had admission

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temperatures of 102°F or greater and three had absolute band counts of at least 1000/mm.[3] All three children over one year of age with bacteremia had admission temperatures of at least 101°F and absolute band counts of at least 550/mm^3 (Table III).

Of the fifteen patients under one year of age, only one was wholly breast fed (7%) at the time of admission. One infant was breast and bottle fed, and thirteen had never been breast fed.

Table I
Frequency Of Bacteremia In Hospitalized Children With Nontyphoid Salmonellosis In Whom Blood Cultures Were Obtained.

Age	Number of Blood Cultures Taken	Number of Positive Blood Cultures
<1YR	4	4
>1YR	6	3

Table II
Features of Salmonella Bacteremia In Infants Less Than One Year Old

Age	Temp (°F)	WBC/mm^3	Absolute Band Count/mm^3
2MOS	104°	7,200 39% segs 6% bands	432
2MOS	102°	7,000 7% segs 16% bands	1,120
3½MOS	103°	14,000 55% segs 10% bands	1,400
5MOS	103°	8,300 18% segs 30% bands	2,490

Table III
Features of Salmonella Bacteremia In Children Greater Than One Year Old

Age	Temp (°F)	WBC/mm^3	Absolute Band Count/mm^3
7YR	101°	9,700 73% segs 6% bands	582
9YR	103°	6,500 49% segs 9% bands	585
14YR	105°	17,800 27% segs 32% bands	5,696

DISCUSSION

Several observations made in this study are consistent with previous reports. The high incidence during summer months is a well established seasonal pattern.[1, 5] Most hospitalizations occurred in infants less than one year old which is compatible with data showing the attack rates to be greater in infancy than at any other time during life.[2, 7] As in our patients, diarrhea and vomiting were described as the most prominent clinical manifestations in 5,312 cases of nontyphoid salmonellosis reported by Saphra et al.[4] Bloody diarrhea and abdominal pain, documented by other authors, were not found as often in our patients.[4, 5] A majority of infants in our study made a description of abdominal pain less likely, and stools may not have been examined closely for blood.

Seven of 10 patients in whom blood cultures were done were found to be bacteremic. A transient bacteremia has long been described as common in Salmonella infections with chills and fever.[4] A recent report confirms a much higher incidence of bacteremia accompanying nonepidemic Salmonella enteritis in children less than one year of age than was previously reported.[2, 7] It has not been determined whether clinical characteristics can help differentiate infants with bacteremia since neither study has consistently performed blood cultures on all infants with salmonellosis.[2] Likewise, the significance of the bacteremia is unknown, but metastatic infection has occurred in infants.[8] Our approach as well as that of others has been to treat bacteremic patients with intravenous antibiotics.[2]

The feeding histories of a comparable control group of young infants hospitalized for reasons other than gastroenteritis were not examined. Therefore, we cannot make meaningful comparison with the apparent low incidence of breast feeding (1/15) in these infants with nontyphoid salmonellosis. There is, however, recent data supporting the contention that breast feeding indeed protects infants from Salmonella enteritis.[6]

In view of the apparent increasing incidence and significance of this pathogen, the physician must use epidemiologic and clinical manifestations to help differentiate nontyphoid salmonellosis from other organisms causing acute diarrhea in infants and children. He can also recommend breast feeding to help reduce the frequency of this illness in infants under his care.[6] □

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THE ESTABLISHMENT OF A TREATMENT CENTER FOR VICTIMS OF RAPE

GILBERT B. BRADHAM, M.D.*

Approximately one year ago, a local police chief requested medical help for victims of rape.[1] It was stated that most victims were taken to the Charleston County Hospital Emergency Room where a wait of several hours was not unusual. Such a wait was a distinct deterrent to the acceptance of examination and treatment by most victims and also diminished the likelihood of proper gathering of evidentiary material and added significantly to the victim's psychological trauma.

We found this assertion to be correct, and a determined effort was developed to provide a more optimal method of treatment. The following report provides the results to date.

METHOD

A program was initiated through the combined efforts of several groups — a team of psychologists, the involved clinical departments of the College of Medicine at the Medical University (largely Obstetrics and Gynecology, Psychiatry, Pediatrics and occasionally Surgery), a civic group (People Against Rape), the Medical University Hospital, the Solicitor of the Ninth Judicial District and the law enforcement agencies in the Charleston area. A protocol of examination and treatment was developed (Table I). A portion of the current outpatient area of the University was made available for rape victims and police 24 hours a day.

No waiting time is allowed. The victim is admitted to a quiet, well furnished counselling ante-room which allows quiet police interview and counselling by a People Against Rape (PAR) advocate. These advocates staff a 24 hour day access telephone service and are immediately available for counselling. After the victim is reassured and signs proper consent forms for examination and the gathering of evidentiary material, an examination is provided in a room designed for this purpose. The nurses who staff this unit are trained to discern which set of physicians are proper to a particular problem. Then it is decided if the pediatrician will be called for children, the surgeon for surgical trauma, or the psychiatrist for acute, severe psychological trauma. The obstetrics and gynecology service provide the majority of the medical services in the unit. (Table II).

After the examination, the victim is given an appointment for followup in the appropriate clinic for further medical and counselling services.

A typewritten report is sent to the police officer involved, to the solictor's office and copies are retained for medical records.

Table I
OUTLINE OF PROTOCOL FOR EXAMINATION OF VICTIMS OF SEXUAL ASSAULT

1. Complete medical history and physical examination
2. Photography of clothing
3. Photography of wounds
4. Urine for pregnancy
5. Collection of evidentiary material including removal of dried seminal stains from skin, fingernail scrapings, pubic hair trimming, pubic hair combins, aspiration of vaginal contents, and Wood's light of pelvic area.
6. Vaginal washing and Pap smear
7. Bimanual pelvic and perianal examinations with cultures for gonorrhea.
8. Rectal washing
9. Collection of saliva and blood samples
10. Microscopic examination for sperm motility.

Table II
AVERAGE TIME SEQUENCES IN TREATMENT CENTER (20 victims of rape)

Patient arrives	0 minutes
PAR CALLED	9 minutes
PAR ARRIVES	24 minutes
PAR interview finished	40 minutes
Doctor arrives and starts examination	38 minutes
Doctor finishes examination	38 minutes

Average time spent in treatment center is 2¼ hours.

* Professor of Surgery and Medical Director, Medical University Hospital, Medical University of South Carolina, 171 Ashley Avenue, Charleston, S. C. 29425.

RESULTS

In the first six months of 1980, 128 persons alleged to be victims of sexual assault have been seen in the unit.

One hundred and fourteen (114) of the 128 victims are female; 14 are male (Figure 1). Of the male victims, only one was an adult and half were 7 years old or younger.

Fifty-nine of the 128 victims (46%) were children (16 years of age or younger). Of these, 27 were very young children (10 years or younger) (Figure 2).

One hundred of the 128 cases were from the cities of Charleston or North Charleston or from Charleston County. Adjoining Dorchester and Berkeley counties provided the majority of the remaining 28 patients. There were 40 victims from within the city limits of Charleston and 25 from Charleston County (Figure 3).

There were distinctly more rapes on weekends than during the mid-portion of the week (Figure 4).

There were 62 black victims and 65 white victims (Figure 5).

There were a total of 184 rapists allegedly involved in the 128 rapes. When the rapist acted alone, it was reported by the victims that there were 41 black rapists and 39 white rapists. When multiple rapists were involved, it was reported that there were a total of 82 black rapists involved in 25 rapes as compared to 10 white rapists involved in four rapes. Rapists acting together generally acted in groups of two, although in one instance it was reported that 18 men participated. In only four instances did both black and white rapists act together.

DISCUSSION

The Code of Laws of South Carolina defines rape in terms of criminal sexual conduct, implying criminal sexual battery. *Criminal sexual battery* means sexual intercourse, cunnilingus, fellatio, and intercourse or any intrusion into the genital or anal openings of another body except under medical circumstances. *Criminal sexual conduct* in the first degree includes either aggravated force, or when the victim is also the victim of kidnapping, robbery, extortion, burglary, housebreaking, etc. Second degree criminal sexual conduct implies aggravated coercion. Third degree criminal sexual conduct implies force or coercion, or the mental or physical helplessness of the victim. Rape, is therefore, a crime against the State and, as such, is not treatable in exactly the same terms as other non-violent trauma.

Medical staff should be well trained in the recognition and treatment of psychological trauma experienced by these victims. It has been found that advocate groups do much to alleviate emotional problems, and add immeasureably to the success of our center. Appropriate, prompt evaluation of patients by various specialists is highly desirable.

In only a few instances has the patient refused either medical or legal examination. The gathering of evidentiary material is advised to all victims independent of their initial wish to prosecute. Many victims who initially do not wish to prosecute may later change their minds. We request that all individuals consent to full medical and legal examination.

It is too early to learn the effects of these measures on the judicial process. A recent report indicates, however, that approaches such as ours benefit society. In 1974, prior to the establishment of a similar center in Baton Rouge, Louisiana, only 37% of rapists were convicted. By 1979, the conviction rate had risen to 90%.[2]

In the first four months of 1979, 54 victims were seen in the Charleston County Hospital emergency room. In the same months of 1980, after the establishment of the Center, 87 victims had been seen, an increase of 161%. It has been stated in victimization studies that the ratio of unreported rapes to reported rapes is at least 3.5:1 and perhaps much higher. With our present rate of victims, it is quite possible that we will see 250 victims during 1980. At the 3.5:1 ratio, it may be that Charleston County is experiencing 875 rapes per year, among a population of 290,000. Assuming 50% females and adjusting the rate to females only, it may be that one of every 165 women is at risk.

We predict that over 400 children will be sexually assaulted in Charleston County in 1980 and that 200 of these children will not even fully understand what is happening. It would appear appropriate to comment that we have either not matured in the concept of a civilized society, or that our educational and judicial systems need significantly better support.

We observed that more rapes occurred weekends than during the week. We also observed a heavy use of alcohol among rapists and the adult victims.

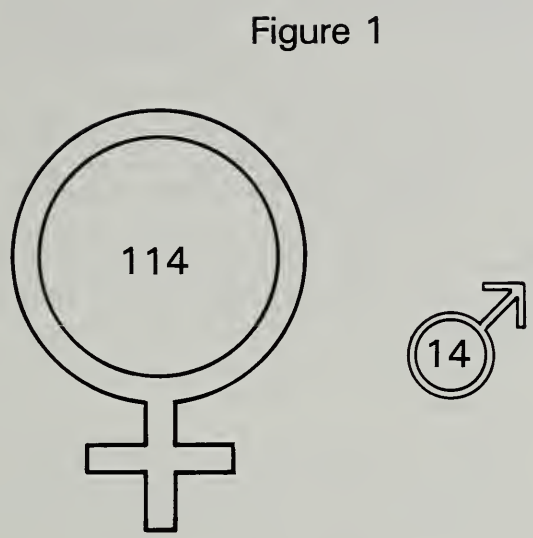

FIGURE 1 — During the first six months of 1980, 128 rape victims were examined, 114 of which were female.

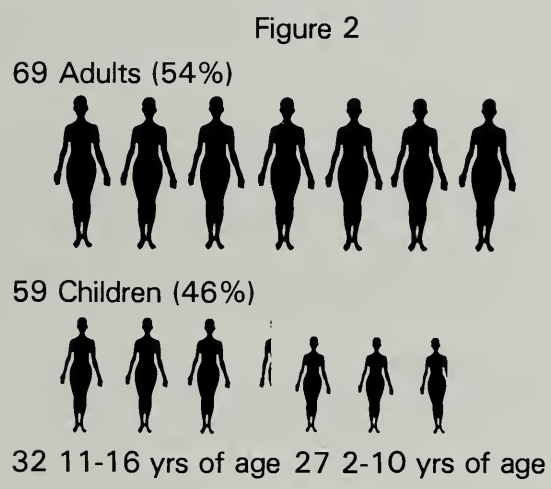

FIGURE 2 — Of 128 rape victims, 59 (46%) were no older than 16 years of age and of these 27 were less than 11 years of age.

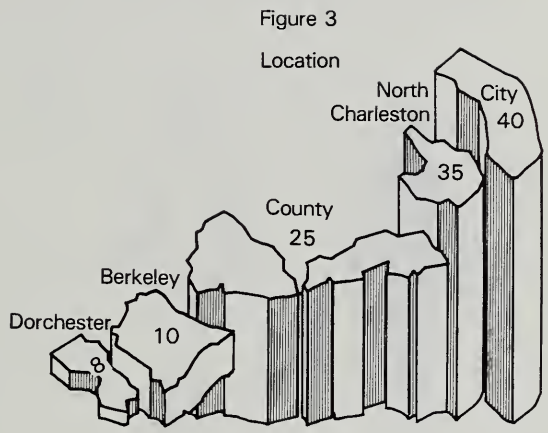

FIGURE 3 — This exploded map shows the distribution of residence of 128 rape victims in the Charleston area.

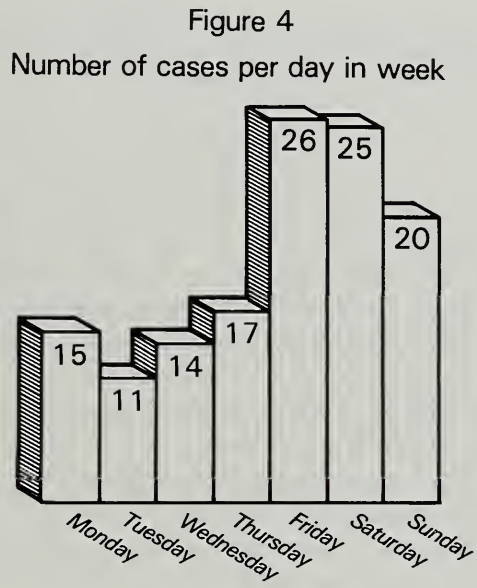

FIGURE 4 — This figure tends to indicate that rape occurs on the weekend (see text).

Figure 5

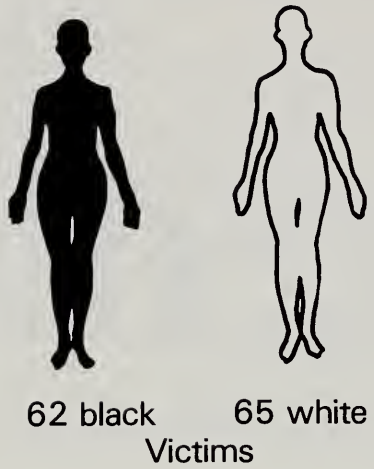

FIGURE 5 — Race distribution is equal among 128 rape victims, but tends to vary if social or economic factors cause uneven distribution of races (see text).

At first glance, rape appears to occur entirely irrespective of race. In our series of 128 victims, 65 were white and 63 were black. When one analyzes the locale of the rape, the figures become more complex. Forty rapes occurred in the City of Charleston; 31 of these victims were black and nine were white. In the County of Charleston, not inclusive of the City of Charleston and the City of North Charleston, 25 rapes occurred, 17 of which were black victims and eight white. In contrast, in North Charleston, a predominantly industrial complex with a heavy white predominance, 35 rapes occurred with 28 being white and only seven being black. One is probably justified in the generally held concept that reported rape has a socio-economic bias, being more prevalent among lower income circumstances, and is more dependent on opportunity and incivility than on race.

It is our hope that the organized coalition of various concerned teams in a facility designed to treat this particular form of trauma in an intelligent and humane way will be of support to the community.

SUMMARY

The establishment of a treatment center for victims of rape is analyzed for the first six months of its activity. The statistics and the organizational methodologies appear to offer as a model for the establishment of such centers in other cities. □

ACKNOWLEDGEMENTS

The author acknowledges that the effort described in this report is a multidisciplinary project of the Medical University of South Carolina and local law enforcement agencies. It is our wish, however, for reason of their personal efforts, to express appreciation to:

People Against Rape, 54½ Broad Street, Charleston, S. C. 29401.

Drs. Lois Veronen and James Kilpatrick, Dept. of Behavioral Sciences and Psychiatry, Medical University of South Carolina, 171 Ashley Avenue, Charleston, S. C. 29425.

Mr. Capers Barr, Solicitor, 9th Judicial District, Charleston, South Carolina 29401.

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EMERGENCY TOXICOLOGY IN A RURAL 119 BED HOSPITAL*

EDWIN C. HENTZ, M.D.
KENNETH L. CRUSE, M.T. (ASCP)

Toxicology reports need to be accurate and available to the physician in a timely manner. Inaccurate reports are not only confusing but harmful and misleading. Precise and accurate reports received two weeks later do not add to patient care.

Over the past two years we have developed a cost effective, accurate and timely toxicology program that supports the needs of our medical staff in a small rural community hospital. Our hospital is located at least one hour travel time from a reference laboratory that has the capability of performing emergency toxicology; in our hospital a comprehensive toxicology screen is generated in less than one hour. These procedures are available 24 hours a day, seven days per week with existing laboratory personnel.

We use a spectrophotometer system that should be within the price range of most hospitals. We currently test for eleven different drugs: barbiturates, opiate, amphetamine, cocaine, benzodiazepine, propoxyphene, phencyclidine, cannabinoid, ethanol, salicylate and acetaminophen.

The tests available can be ordered individually, or can be grouped together for a general screen if no significant clinical history or physical findings are present.

MATERIALS AND METHODS

Blood and urine were simultaneously collected from each of 61 patients admitted to the hospital because of suspected drug overdose during a one year period. The EMIT urine assay, an enzyme immunoassay technique, was performed according to the procedure described by Scheider et al.,[1] for the following drugs: barbiturate, opiate, amphetamine, cocaine, benzodiazepine, propoxyphene, cannabinoid and phencyclidine. All the reagents for these semiquantitative urine drug analyses were obtained from the Syva Company. The serum samples were used in the quantitative assays for ethanol, salicylate and acetaminophen according to the procedures of Bonnichsen et al.,[2] MacDonald et al.[3] and Chafetz et al.[4] respectively. Reagents for ethanol determination were obtained from Sigma Chemical Company, salicylate from Pierce Chemical Company and acetaminophen from Lancer.

The spectrophotometer was a Gilford System 4 equipped with a temperature control flow cell and a pipetter/diluter.

Gastric contents were also assayed for drugs of abuse according to the procedure of Slightom.[5] This procedure extends the EMIT assays in our laboratory to body fluids and tissue through the sampling of reconstituted organic solvent extracts.

RESULTS

A total of 61 patients were tested for drugs of abuse and ethanol. Of the 61 toxicology screens 52 were positive for one or more drugs and 31 were positive for ethanol. Table 1 summarizes the percent positive distribution of the drugs tested. The most common positive drug was ethanol, followed by barbiturates. Eight of the toxicology screens were positive for more than one drug. The most common combination was barbiturate and ethanol, followed by ethanol, and cannabinoid.

Table 1
PERCENT DISTRIBUTION OF DRUGS FROM POSITIVE TOXICOLOGY SCREENS

Drug	Percent
Ethanol	51
Barbiturate	20
Salicylate	13
Opiate	13
Amphetamine	11
Benzodiazepine	11
Cannabinoid	11
Cocaine	3
Phencyclidine	2
Propoxyphene	0

* From the Chester County Hospital & Nursing Center, Great Falls Road, Chester, S. C. 29706.

On three occasions both urine and gastric contents were submitted simultaneously for drug analysis. On all three occasions the gastric contents contained the same drugs found in the urine.

DISCUSSION

In the management of patients with suspected drug overdose knowing the type of drug and concentration of drug can be very important. Two case studies will be presented to emphasize these points.

Case 1. A two year old male was admitted with drowsiness. He had awakened in the morning sleepy and only arousable with stimulation. There was no history of any drug ingestion obtainable from the mother or grandmother. Patient's history revealed an admission for ingestion of rat poison six months earlier. The physical examination was negative except for drowsiness. Pupils were constricted. Hospital course: Child had gastric lavage and a drug screen was ordered. The drug screen was positive for opiates. The child was treated with Narcan and improved. This case illustrates that specific therapy was available and given to the patient after the etiology of the drug overdose was identified.

Case 2. A 23 year old female was admitted with suspected salicylate and acetaminophen overdose. The history revealed that she had ingested approximately 10-15 aspirin tablets and 35 Tylenol tablets 500 mg each (18 grams). The physical examination was negative. The drug screen was positive for serum salicylate (12 mg/dl) and the four-hour serum acetaminophen level was 67mg/L and the 12-hour acetaminophen level was 20 mg/L. The patient was treated with gastric lavage and Mucomyst (specific treatment for acetaminophen overdose to prevent serious hepatic necrosis), and discharged two days later. Specific drug levels and, more importantly, half-life of acetaminophen in-vivo are very important in arriving at a therapeutic decision particularly if the elimination half-life exceeds four hours. Prescott et al.[6]

SUMMARY

The clinical laboratory is essential in providing rapid and accurate drug analysis. We believe that our toxicology program serves the physicians in our hospital and enables our laboratory to provide maximum support to the care of the patient. □

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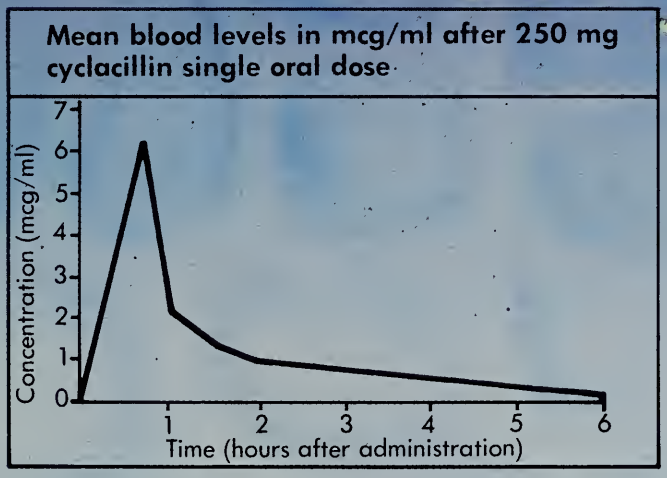

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NEW NAME

ASTHMA MYTHOLOGY: WHAT DO YOU STILL BELIEVE?

STEPHEN A. IMBEAU, M.D., FACP*
PETER M. WILLIAMS, M.D.**

Asthma is a common respiratory ailment in the general population. Several surveys show prevalence of five to fifteen percent.[1] The prevalence among children is higher (up to 30% in some surveys). Yet its pathophysiology is imperfectly understood and a precise etiology is lacking.

A working definition of asthma has been written by the American Thoracic Society and the American College of Chest Physicians[2] — "*Asthma:* A disease characterized by an increased responsiveness of the airways to various stimuli and manifested by slowing of forced expiration which changes in severity either spontaneously or with treatment. The term asthma may be modified by words or phrases indicating its etiology, factors provoking attacks, or its duration."

A syndrome that is difficult to define, albeit common, and that is aggravated by a variety of environmental circumstances is bound to be surrounded by much misinformation. And so it is for asthma. But since the 1960's, scientific method has been applied to the study of asthma patients. Much of the old mythology can now be put aside.

MYTH #1 "ASTHMA IS NOT REAL, BUT RATHER A PSYCHOSOMATIC MANIFESTATION"

The accompanying assumption is usually that therefore asthma is not very important and does not need therapy. Unfortunately, this myth is still widely held by physicians and patients alike, largely because of the lasting influence of Dr. Osler who preached this point of view.

As any patient with chronic disease, the asthma patient may have certain psychological peculiarities, as do patients with carcinoma, diabetes, emphysema, etc. . . . But asthma is a bona fide pathological condition. Many lines of evidence support this new reality: animal models of asthma, isolated tracheal ring behavior in the laboratory, physiological manipulation of patients, the clear-cut improvement of patients when treated with specific therapy (bronchodilators, adrenergic agents, cromolyn and corticosteroids), and finally asthma deaths point up the stark reality of asthma. Of course, psychic phenomenon may aggravate the asthma state.

Asthma must be taken seriously. Effective therapy is now available, regardless of the cause of the particular asthma episode.

MYTH #2 "ASTHMATIC BRONCHITIS IS BEST TREATED WITH ANTIBIOTICS"

Asthma (or asthmatic bronchitis) is classified as one of the chronic obstructive lung diseases (COPD) and often as a chronic bronchitis. Sputum and phlegm production is common in asthma. But the phlegm is not evidence of bacterial tracheo-bronchitis and the chest x-ray is clear in the average asthma patient. The eosinophil is a prominent cell in the asthmatic sputum. *What many physicians forget is that the eosinophil, as a leukocyte, can itself make the sputum appear green or yellow.* But the asthmatic sputum is not infected; the patient is best treated with specific asthma therapy, not antibiotics. Infection-like sputum in asthma is caused by eosinophils; rarely is true bacterial infection present.

The natural history of asthma is to wax and wane and so placebo therapy (antibiotics are placebo therapy for asthmatic bronchitis) may seem to be beneficial. But less dangerous, specific medications are now available; the patient deserves and responds better to specific therapy.

* 520 Whitman Ave., Florence, S. C. 29501.
** Pee Dee Alergy Clinic, P.A., P. O. Box 1869, Florence, S. C. 29503.

MYTH #3 "YOU WILL GROW OUT OF ASTHMA"

Unfortunately, this myth together with myths #1 and #2 mean that many patients, children in particular, receive no therapy for asthma at all. It is indefensible to deny specific therapy to any asthmatic patient. Therapeutic denial consigns the hapless patient to miss school and/or work days, to sleepless nights, to restricted activity and to hospitalizations for "bronchitis."

Asthmatic children often do improve normally as they grow older. Anatomical growth and development lead to wider bronchi and thus bronchospasm must be more severe to cause the same symptoms as in younger airways.

Careful studies demonstrate that only at most 50% of these young patients are asthma free as adults.[3] So, as many children will *not* "grow out" of their asthma as will. And in any event there is no need for the asthmatic child to remain ill just because we expect or hope he/she will outgrow their disease. Specific therapy may greatly improve the quality of life.

About four out of five children with asthma have allergy as a major aggravating factor.[4] Specific immunotherapy (allergy shot therapy) with high dose, specific antigen is now known to be efficacious.[5] Symptoms are controlled and the need for drug therapy, particularly corticosteroids, may be reduced. The length of disease duration may also be shortened in many patients and a normal activity level restored. New and better methods of immunotherapy are on the horizon. Allergy evaluation should be part of the work-up for asthma patients, particularly children.

MYTH #4 "I CAN FOLLOW ASTHMA WITH MY STETHOSCOPE"

Wheezing is *not* a good guide to asthma status. Not all patients with asthma wheeze, even with a stethoscope. Cough, not wheezing, is most common in children (particularly nocturnal cough).

Wheezing is caused by bronchospasm in the large airways, but much of asthma is in the small airways and cannot be heard by the stethoscope. And of course severe asthma can so restrict air movement so as to cause no sound at all. Finally it is impossible to objectively quantitate wheezing.

The only way to quantitate and follow asthma is with pulmonary functions. The FEV_1 and FVC (forced expiratory volume in one second and the forced vital capacity, respectively) are simple and convenient measures. An inexpensive and portable device (i.e. Vitalor) is all that is necessary for most office practices.

MYTH #5 "THE ASTHMA DOG WILL TAKE AWAY YOUR ASTHMA"

Apparently many parents believe that the Mexican Chihuahua dog will overcome asthma in their children. We suspect the myth grows out of myth #1 — "Asthma is a psychosomatic manifestation." Little dogs that can mimic their master's asthma will in no way alter human asthma, although they may amuse or distract.

Animal danders are potent allergens (for both asthma and hay fever), and must be strictly avoided by sensitive individuals. However, there is some species or type variation among the animals for some individuals, but short haired dogs are not safer than long haired dogs. The allergen is an albumin complex in serum, urine and dander; the hair itself is probably not directly involved as an allergen.

MYTH #6 "VIRUSES DO NOT CAUSE ASTHMA"

In fact a variety of viral syndromes are now known to involve some degree of reversible bronchospasm (asthma) particularly in children: broncholitis, tracheo-bronchitis, and croup. Specific asthma therapy (bronchodilators, adrenergic agents and corticosteroids) are now recognized to be efficacious and at times life saving in these common syndromes.

But most interesting is the recent realization that the common cold and flu viruses can also aggravate asthma or even cause *de novo* asthma. The etiology of virus induced asthma is not understood. Children appear to be at particular risk for this sort of "infectious" asthma (to be differentiated from asthma associated with sinusitis). Some writers estimate that as many as 30% of all children have at least one episode of virus induced asthma without previous history of asthma; this sort of asthma may often become chronic. There is also strong evidence that children with known asthma (allergic or otherwise) have a propensity for colds and most of the cold episodes exacerbate their asthma.[8] We now instruct patients with asthma (especially children) to initiate or increase asthma medication at the

first sign of a cold in order to prevent or ameliorate any subsequent asthma. Note that the lung may require as much as four to six weeks to recover from an episode of virus induced asthma. Again treatment is with specific asthma drugs.

We should point out that virus induced asthma used to be confused by allergists and pulmonologists as bacterial induced asthma. This is more a misnomer than a myth. Very few people alive today believe that bacterial infection of the lung causes asthma, and bacterial vaccines have been removed from the market by the FDA as asthma/allergy therapy.

The science of asthma and allergy have both come a long way in the last twenty years. It's time to lay aside the old mythology. Asthma is now an eminently treatable disease. □

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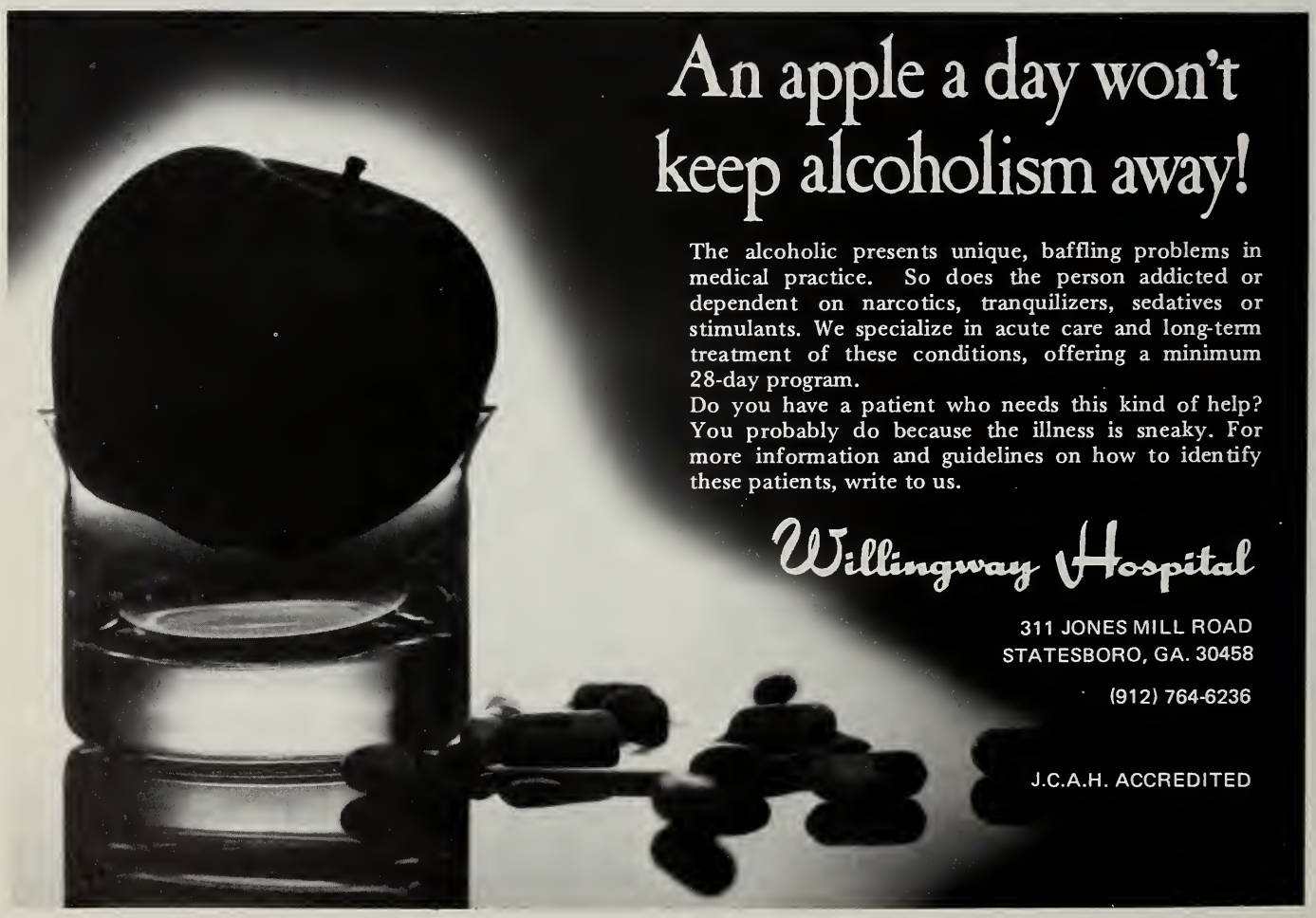

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Brief Summary

INDICATION: Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly. *Drug Dependence:* Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. *Use in Pregnancy:* Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. *Use in Children:* Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: *Cardiovascular:* Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. *Central Nervous System:* Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache; rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. *Gastrointestinal:* Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. *Allergic:* Urticaria, rash, ecchymosis, erythema. *Endocrine:* Impotence, changes in libido, gynecomastia, menstrual upset. *Hematopoietic System:* Bone marrow depression, agranulocytosis, leukopenia. *Miscellaneous:* A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSAGE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride): One 25 mg. tablet three times daily, one hour before meals, and in midevening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swallowed whole, in midmorning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE: Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phentolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of January, 1980

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Editorials

SUNSET REVIEW OF THE MEDICAL LICENSING BOARD

Many physicians are unaware of the importance of the state medical association in advising other state bodies of the appropriateness or inappropriateness of proposed regulations which affect the practice of medicine.

Licensing of physicians serves as one example. To our medical licenses, we owe our authority to see patients, hold staff privileges, diagnose and prescribe. All of these privileges derive from the State Board of Medical Examiners.

During the past year, the entire structure of the State Board of Medical Examiners has been severely questioned. The Sunset Review process, enacted by the State Legislature several years ago, began to examine the State Board of Medical Examiners in the fall of 1980. The Legislative Audit Council studied the Board's functions and held public hearings. The findings of the Legislative Audit Council indicated no major criticisms of the Board.

Despite this favorable report, the State Reorganization Commission proposed legislation, for introduction in the 1981 General Assembly, which would have radically altered our well-functioning Board of Medical Examiners. The proposal would have changed the election process of the Board, given final authority to the office of the Governor for naming physicians to the Board, and would have added two consumers and a physicians' assistant to the Board. It would have insisted that physicians interested in serving on the Board in various districts would have to announce their candidacy and campaign for nomination within their districts before their names could be sent to the Governor for consideration.

The leadership and Council of the SCMA opposed all of these changes with the exception of one consumer to the Board. Through a series of hearings and lobbying efforts, starting during the fall of 1980 and continuing during the current legislative session, the SCMA has successfully convinced the Legislature to maintain the current election process and to continue the current organizational structure of the State Board of Medical Examiners. However, the Governor will be allowed to appoint one of the three at large physicians to the Board; he will also appoint one consumer member to the Board with a specific provision that such public member cannot be involved in testing physicians for licensure. The S. C. Physicians Assistants Association will be allowed to designate a person to attend meetings of the Board and speak to matters pertaining to P. A.s, but such persons shall have no vote and will not be considered a Board member. In addition, the length of terms of Board members will be changed from no limitation to two full four-year terms.

We have emphasized repeatedly the desirability for all physicians in South Carolina to belong to the SCMA. We believe that many physicians who do not belong are simply unaware of the importance of actions such as those taken in response to the Sunset Review Report.

— CSB

PUBLISHING PRIORITIES FOR INSTITUTION-BASED PHYSICIANS

State medical journals are not the optimum place for publication of original scientific investigations by institution-based physicians, primarily because the increasing sophistication of medical research demands that such articles be referred by and published in appropriate specialty journals. However, complete isolation of institution-based physicians from periodicals such as ours would indicate increasing isolation of "town" and "gown" physicians, which is undesirable for a number of reasons. The second Roe Foundation award — created to recognize the scientific contributions by institution-based medical scientists in South Carolina — was considered to be extremely appropriate by our editorial board. We have emphasized that this award will be based upon review articles, citing the investigator's contributions but also placing the work in proper perspective for the benefit of practicing physicians.

The article by Dr. John A. Colwell in this issue of *The Journal* outlines the work of his group on the pathogenesis of diabetic vascular disease. The practicing physician can glean, from Table I of this paper, a concise overview of the various hypotheses and can then examine the approaches taken by Dr. Colwell's group toward better understanding of this major clinical problem. It is our hope that this article will be the first of a number of timely review articles intended to familiarize practicing physicians with medical research being carried out in South Carolina.

— CSB

SARLIN WINS ROE FOUNDATION AWARD

Milton Sarlin, M.D., of Pacolet, S. C., was presented with a check for $5,000 as the winner of The Roe Foundation Award for the best article by a practicing physician published in *The Journal* during 1980. The presentation was made by *Journal* Editor, Charles S. Bryan, M.D., during the SCMA Annual Meeting in Charleston, on Saturday, May 16, as part of the ceremonies which took place at the Presidential Luncheon.

Dr. Sarlin was selected by the Editorial Board as the recipient of the award on the basis of his article, "Health Surveillance in an Acute Care-Oriented Population". The article described a simple method by which medical records in an acute care population can be streamlined in such a way as to give patients the best ongoing comprehensive care.

EDITORIAL BOARD GAINS NEW MEMBERS

William H. Hunter, M.D., President, announces the following additional appointments to the Editorial Board of *The Journal:*

W. Curtis Worthington, Jr., M.D., Charleston
Arthur F. DiSalvo, M.D., Columbia
J. Sidney Fulmer, M.D., Spartanburg
Frederick L. Greene, M.D., Columbia

Prior members of the Board who will continue to serve during the upcoming year include:

Charles N. Still, M.D., Columbia
E. Mims Mobley, Jr., M.D., Greenwood
Leon Banov, Jr., M.D., Charleston
Thomas M. Leland, M.D., Charleston
J. Gavin Appleby, M.D., St. George
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President's Page

THE PURPOSE OF PHYSICIANS

My approach to being your SCMA President is one of ambivalence. There's the honor of the office, of being selected by one's profession to be their leader. This comes as a culmination of many years of work in our Association, of 26 years in the House of Delegates and of all the things that go with that responsibility. I must frankly admit that I have enjoyed every bit of it, which brings me to the other side of the ambivalence. I have now only a year left to be involved and a year from now, it'll be all over. So, I plan to take this year and do my best for you and for our patients.

Perhaps a major reason that I've enjoyed my past activities in the SCMA has been the high caliber of physicians I have had to work with during these years. It's a constant wonder to me the great ability and time put into SCMA efforts by outstanding physicians such as Waitus Tanner, Halsted Stone, Harrison Peeples, Euta Colvin, Ken Owens, Tucker Weston, Gavin Appleby, Sid Fulmer, Leonard Douglas, Randy Smoak, Charles Bryan, John Hawk, Guy Castles, and so many others that space doesn't permit me to list them all. Your SCMA Council at this time is the most able that I've known.

Last year, during your Council's annual retreat, we spent considerable time and thought on the SCMA's purpose. It was our consensus that the *raison d'être* of the SCMA was our patients' welfare.

At first sight, certainly within our profession, this concern for our patients' welfare may seem rather obvious. Indeed, we physicians are working constantly to improve the health of those under our care, so what else is new? What's new in medical care is the insidious epidemic of governmental and third party interference that we have watched take place in the past 20 years; this along with disease is what we must protect our patients against. Herein, I am not singing a nihilistic governmental song. Many aspects of our Public Health Service have been excellent. Many of the health bureaucrats that I have been associated with in Columbia, Bethesda, and Washington are conscientious, hard working and dedicated persons . . . and often as not underpaid and overworked for their time, effort and ability. However, when government begins to ration health care and interfere in the patient-physician relationship, then our patients need protection. The first line of defense should be their physician, and the only way this can be accomplished is through organization, your South Carolina Medical Association and the AMA.

In saying this to you readers, I am perhaps like the preacher who gave a stirring sermon on church attendance to the few who attended with a foot of snow on the ground. Probably 90 percent of those of you reading this are contributing members to the SCMA and the AMA. It is equally important for you to encourage *all* of your fellow physicians to share this load that you are already carrying.

So, in the past and even more so in the future, your SCMA's time, effort and economic resources go directly and indirectly towards what will benefit the patient. Indeed, a good measure we should use in undertaking an endeavor is to think, "Will this in the long run be of help to our patients?"

WILLIAM H. HUNTER, M.D., *President*

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MAY 15, 1981 — SCMAA

Mrs. Vaughn, Mrs. Brady, Mrs. LaBruce, Members of the South Carolina Medical Association Auxiliary, Honored Guests:

As I accept the Presidency of the South Carolina Medical Association Auxiliary, I do so with a deep sense of gratitude to the members of this organization — gratitude not only for the honor of the position, but also for the opportunity to continue to be of service. I also am filled with humility, because I know my limitations and sincerely pray I may be worthy of your trust.

To follow in the footsteps of one so vivacious and capable as Karin will be no easy task — her ideas and enthusiasm will continue to touch auxiliaries across the state for a long time.

Speaking for the newly installed officers and for the committee chairmen who will be serving with me — I feel we will accept the "Challenge of the 80's" that is before us as part of the medical profession, and that we will strive to use our best influence to shape the times in which we live. We have the responsibility of acting as a liaison between the medical profession and the public — as an extension arm of the Medical Association. To evaluate our effectiveness is not easily done. Whatever we do shall be guided by past experience. I am already grateful for many of our past state Presidents who have so graciously advised me and answered all my questions.

Our national emphasis for 1981-1982 is "Coping with Stress in the 80's" which is still a part of the Shape Up For Life Program. Each of us and those with whom we come in contact is aware of the stressful society of which we are a part. We need to educate ourselves, those we love, and the public to ways we can all improve our mental and physical well-being.

Hopefully this year we can strengthen the bonds within our state auxiliary. We have grown to a total of twenty-seven auxiliaries with over 1500 members. One objective of our organization is to promote friendliness among the families of the medical profession. As we get to know each other better, auxiliary friendships are formed. We renew these friendships each meeting — and we strengthen our friendships through the continual process of sharing our time and talents within our communities and throughout our state and nation. What a rich heritage we have and what a challenge we have for the future!

As individuals we can get a job done, but as we work together for the "advancement of medicine" we can lay a stronger foundation on which to build.

I pledge to you my untiring efforts in fulfilling the goals we set forth as an auxiliary, and ask for your continued support, help and interest.

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THE JOURNAL
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THE SPUTUM WET PREP

FREDDIE E. WILSON, M.D.*

An elderly lady is admitted with shortness of breath and chest constriction. Physical examination and chest x-ray are normal. Ischemic heart disease is suspected. However, serial electrocardiograms and cardiac enzymes do not support this diagnosis. Spirometry reveals normal ventilatory function. Symptoms persist. What is the diagnosis?

An unstained wet mount preparation of the scant amount of sputum she produced reveals numerous eosinophiles. The patient's symptoms resolve with oral and aerosol bronchodilator therapy.

Another patient is almost unable to perform her duties as Dean of Women in a university because of incessant coughing of several months' duration, unresponsive to usual antitussive preparations. Physical examination, chest x-ray, and ventilatory function are normal. Sputum examination reveals numerous eosinophiles. Her cough is abolished with metered dose nebulized bronchodilator and small doses of corticosteroid administered on alternate days.

These cases teach two lessons. Patients with asthma can present with shortness of breath alone, or cough alone, without wheezing or impairment of lung function as usually tested. Examination of unstained wet preparations of sputum, which takes only a few minutes, can resolve what may appear to be a difficult diagnostic dilemma, and prevent unnecessary hospitalizations and costly diagnostic procedures. The technique, as popularized by Epstein,[1] is simple. Freshly expectorated sputum is placed on a clean surface, such as a paper towel, and a small amount of sputum is teased away with the ends of applicator sticks and placed on a slide. A cover slip is gently pressed over the sputum. The smear is initially examined under low power, then under oil immersion with low intensity light. An ideal preparation reveals a thin film with a monolayer of cells. Individuals experienced with the technique can glean considerable information from both the cellular and noncellular components. However, even the novice can easily recognize eosinophiles, neutrophiles, alveolar macrophages, and ciliated bronchial epithelial cells. Eosinophiles contain bilobed nuclei and large distinct uniformly sized birefringent granules (Fig. 1). Neutrophiles have multiple lobed nuclei and small variably size granules, which demonstrate considerable brownian movement when fresh (Fig. 2). Alveolar macrophages are large, contain indistinct one-lobe nuclei and large granules or vacuoles (Fig. 3). Ciliated bronchial epithelial cells are oblong with a larger head than tail (Fig. 4). Ciliae are usually present on the larger end, but sometimes are absent.

In order to differentiate sputum from nasopharyngeal secretions, alveolar macrophages must be present and squamous epithelial cells sparse.

* Department of Internal Medicine, Greenville Hospital System, 701 Grove Road, Greenville, S. C. 29605.

At times, the anuclear ciliated head of the bronchial epithelial cell can be seen without the tail which has become unattached, a finding of diagnostic significance, as demonstrated by the following case. An elderly lady was hospitalized with severe cough and myalgias of several days' duration. She had a low grade fever, but physical examination was otherwise negative. Ventilatory function and chest x-ray were normal. Sputum examination revealed scant mucoid sputum containing numerous alveolar macrophages. In addition, numerous ciliated tufts, representing fragmented distal ends of ciliated epithelial cells were seen. The diagnosis of acute viral bronchitis was made. This fragmentation of bronchial epithelial cells, known as ciliocytophthoria, is a degenerative change and was first recognized by Papanicolaou et al during an Asia flu epidemic.[2] When present in patients with acute bronchitis, a viral etiology is suggested.

Can examination of sputum provide information useful in managing more typical respiratory patients? We followed 15 consecutive patients admitted with respiratory symptoms.[3] Daily sputum wet preparations were performed. Results were correlated with the clinical information and pulmonary function studies to evaluate usefulness in establishing diagnosis, guiding therapy, and predicting response to therapy. Patients were treated with aerosol and oral bronchodilators and chest physical therapy. Antibiotics, intravenous aminophylline, and corticosteroids were given when indicated. Three patients had asthma, four chronic bronchitis, six emphysema, one acute (presumed viral) bronchitis, and one bronchiectasis.

We found that sputum examination was not necessary to establish the diagnosis of asthma in these typical cases. The diagnosis was clinically obvious. However, the finding of sputum eosinphilia did confirm the diagnosis. Moreover, since all three patients with asthma had purulent appearing sputum, the finding of sputum eosinophilia prevented our prescribing unnecessary antibiotics.

The finding of 10-20% sputum eosinophilia in two patients helped confirm the impression of chronic asthmatic bronchitis. Indeed, Chodosh has used the degree of sputum eosinophilia to differentiate chronic bronchitis (less than 2% eosinophiles), asthmatic bronchitis (5-20%), and asthma (20-90%).[4] In nine patients with exacerbations of chronic obstructive pulmonary disease who were producing purulent sputum, the wet preparation revealed 95-100% neutrophiles, suggesting the need for antibiotics. The finding of numerous ciliated tufts (ciliocytophthoria) in the sputum of one patient suggested viral bronchitis.

Although sputum eosinophilia was a good predictor of response to therapy, the best predictor was the diagnosis. All patients with the diagnosis of exacerbation of asthma or chronic bronchitis improved with therapy. However, those with sputum eosinophilia showed greater improvement in ventilatory function than those without sputum eosinophilia.

Although examing sputum wet preparations is helpful in diagnosing asthma presenting in an atypical manner, the bread and butter use of sputum wet preparations, it appears to me, is in differentiating infectious from noninfectious exacerbations of chronic obstructive pulmonary disease and asthma. In infectious exacerbations associated with sputum *neutrophilia,* antibiotics can usually be empirically chosen, bacteriologic evaluation of sputum only rarely being indicated in this setting. In noninfectious exacerbations associated with sputum *eosinophilia,* bronchodilators with or without corticosteroid therapy can be confidently prescribed. □

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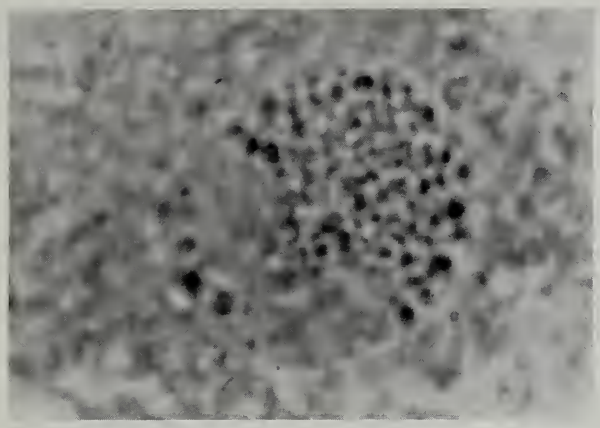


FIGURE 1 — Eosinophile in sputum
Unstained wet preparation.
Oil immersion

FIGURE 2 — Neutrophile in sputum
Unstained wet preparation.
Oil immersion

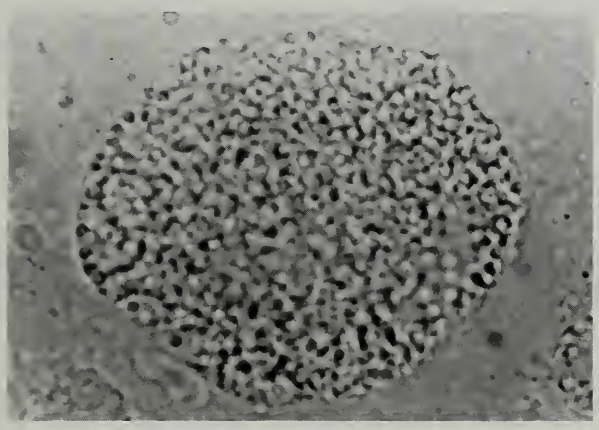
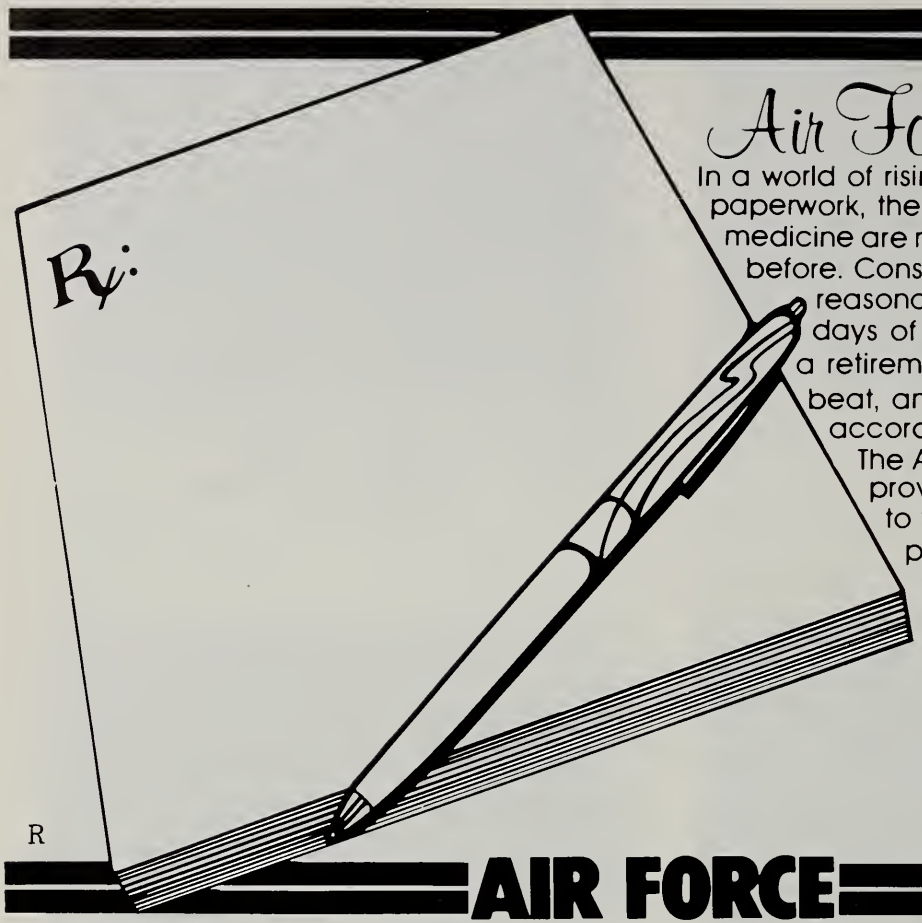


FIGURE 3 — Alveolar macrophage in sputum
Unstained wet preparation.
Oil immersion

FIGURE 4 — Ciliated bronchial epithelial cell
Unstained wet preparation.
Oil immersion



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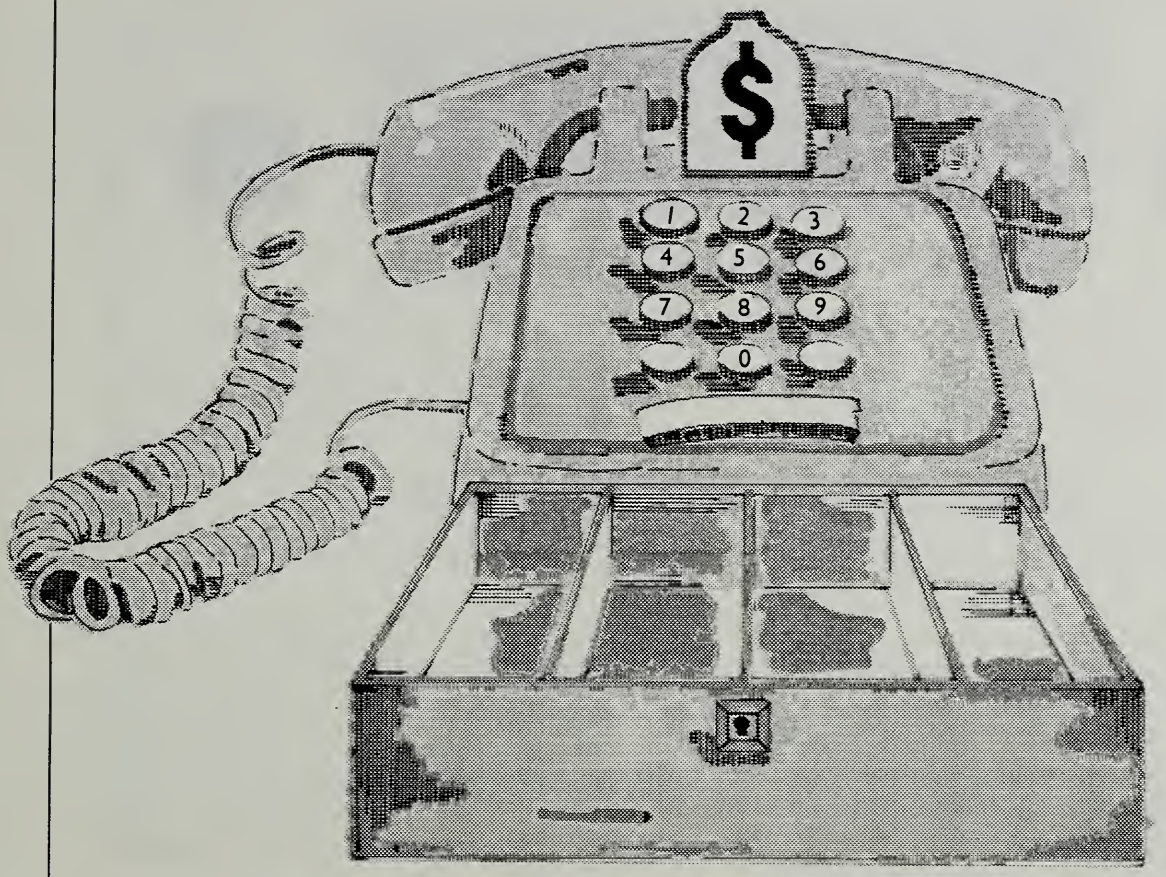

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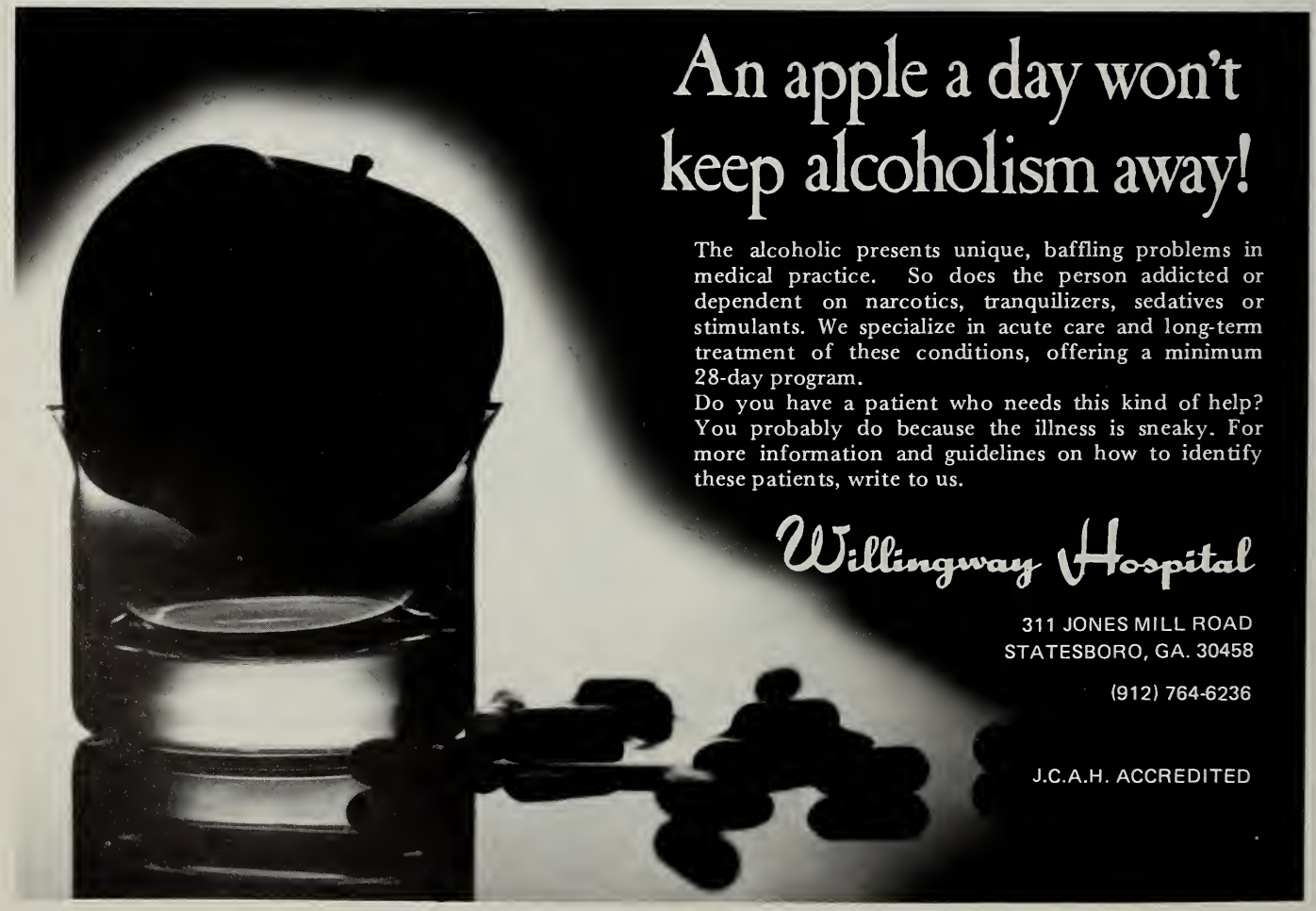

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J.C.A.H. ACCREDITED

TOXIC-SHOCK SYNDROME

WILLIAM F. JAMES, JR., M.D.*

Toxic-shock syndrome is an acute, prostrating disease punctuated by fever, rash, diarrhea, vomiting, and hypotension. As with any constellation of symptoms and signs, variations in combination and severity are common. The Center for Disease Control admits to initial underestimation of the incidence of toxic-shock syndrome by insisting that the diagnosis include hypotension and involvement of at least three organ systems.[1] Although the risk of TSS is low (about 3 per 100,000 menstruating women per year in Wisconsin),[2] it presents a cause for great concern. Mortality has been estimated at three to 10 percent. As of early December 1980, toxic-shock syndrome had affected 652 people, with 63 deaths.

Fever and a sunburn-like rash which desquamates especially on the palms and soles one to two weeks after the onset of the illness occur in nearly all cases. Severe myalgia is sometimes accompanied by elevated creatine phosphokinase (CPK) levels. Hyperemia of the vaginal, orophyaryngeal, and conjunctival mucosa is common, and renal or hepatic dysfunction has been reported. Laboratory evidence of disseminated intravascular coagulation and the shock lung syndrome have also been cited. Central nervous system symptoms include headache, disorientation, and altered consciousness.

Since vaginal tampons were introduced in 1933,[3] they have become extremely popular and are now used by an estimated 70 percent of menstruating women.[2] Although tampon-induced vaginal ulcers were recently reported,[3, 4] millions of women have worn tampons with no adverse effects. The observation that 95 percent of toxic-shock syndrome cases began during the menstrual cycle led to epidemiologic studies which associated tampon use with the syndrome.[2] A second retrospective study then focused on tampon brands and suggested a special association with Rely tampons.[2] This product was recalled on September 22, 1980. Cases have been reported with other tampon brands, and the etiology and pathophysiology of toxic-shock syndrome remain uncertain.[5] It should be noted that the syndrome has also been reported in nonmenstruating women and in men.

Staphylococcus aureus was isolated from the vaginas of 43 of 44 women with toxic-shock syndrome, compared to four of 55 controls.[1] This association seems especially plausible in view of the similarity between toxic-shock syndrome and known staphylococcal toxin-induced illness. Circulatory collapse from ingestion of preformed staphylococcal enterotoxins, and exfoliative dermatitis ("staphylococcal scalded-skin syndrome") from an exfoliative toxin — are well-described. In the first report of toxic-shock syndrome, a new epidermal toxin causing cutaneous cleavage at or below the basal layer on skin biopsy was described.[6] In view of these findings, Fuller[7] proposed that toxic-shock syndrome results from peritoneal absorption of staphylococcal toxin refluxed through the fallopian tubes, as a result of colonization of the vagina and subsequent vaginal occlusion by the tampon.

CASE REPORT

A 13-year-old female was hospitalized with a three-day history of headache, nausea, vomiting, diarrhea, and vague abdominal pain, progressing to severe toxicity. The illness began on the third day of menses. She had used Rely tampons from menarche at age 12 until the previous cycle; at that time, Rely tampons were withdrawn and she was using Playtex tampons at the time of admission. She appeared acutely ill with temperature 101.6° (oral) and pulse 120 beats per minute.

* The Woman's Clinic, P.A., Post Office Box 1984, Spartanburg, S. C. 29304

There was no rash, mucous membrane hyperemia, or evidence of peritonitis. White blood count was 13,500 per cmm with a left shift.

Intravenous fluids were instituted, intravenous oxacillin begun, and the tampon was removed. Cervico-vaginal culture revealed a heavy growth of *Staphylococcus aureus*. Within 12 hours, gastrointestinal symptoms abated and she was much improved. After 48 hours, she was placed on an oral penicillinase-resistant penicillin. She was discharged on the fifth hospital day. Exfoliation of the skin of both palms began 13 days after the onset of her illness.

DISCUSSION

Evaluation of patients with suspected toxic-shock syndrome should include cervico-vaginal culture for *S. aureus* after vaginal inspection and removal of all tampon materials. Immediate supportive care should include observation of cardiovascular and respiratory function. Although the impact of antibiotics on the illness remains unclear, only one of nine patients who initially received a cephalosporin or penicillinase-resistant penicillin experienced a recurrence, compared to nine of 15 who did not receive such an agent.[2] Therefore, the Center for Disease Control recommends institution of an antistaphylococcal antibiotic after appropriate cultures are obtained. The 30 percent recurrence rate mandates that women recovering from this syndrome not use tampons, at least until *S. aureus* has been eradicated from the vagina.

The American College of Obstetricians and Gynecologists has urged that all patients avoid the new super-absorbent tampons until current questions are answered.[8] Although "women need not stop using tampons," frequent changes (at least every six to eight hours) and alternation with sanitary napkins or mini-pads is advised.

Inquiring patients may obtain information from Sandra E. Fink at the American College of Obsetricians and Gynecologists, One East Wacker Drive, Chicago, Illinois (312-222-1600). Physicians managing active cases may obtain advice from the Centers for Disease Control Toxic-Shock Syndrome Task Force (404-329-3687). □

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HYPERTENSION, HYPERCHOLESTEROLEMIA, AND OTHER HEALTH INDICES AMONG BLACKS OF HAMPTON COUNTY

KALISH MATHUR, Ph.D.*
CLARK ARCHER, M.S.**
JULIAN E. KEIL, Dr. P.H.***

The thrust of this paper will be to present some health and demographic information about a rural area of South Carolina. Hampton County was selected in the early seventies to be the focus of a Human Nutrition Study. Nutritional results have been published elsewhere.[1]

The population of Hampton County, according to the 1970 Census, is 15,878 persons with 49 percent of the total population Black. The breakdown of the population in age groups is as follows: 39.2 percent are under 18 years of age, 51.6 percent are in the 18-64 age groups and 9.2 percent are 65 years of age and older.[1]

The median school years completed by Hampton County residents are 8.8 years for males and 9.5 years for females. The percentage of high school graduates is 26.8 percent for males and 28.8 percent for females.[2]

One third of the total population are poverty-stricken. In 1969 one-half of the families in Hampton County received income under $5,721. Also, 31% (1921) of the families received less than "poverty level" income ($5,000 annual, according to U. S. Census), while only about 6% (357) received over $15,000.[2]

Table 1 lists the number of births, infant mortality rates, and the number of deaths (all ages), by race for Hampton County for the years 1971-1973. Infant mortality rate, considered to be an index of community health, was markedly higher among non-whites than whites. It also reveals that there are more live non-white births than white births. The major causes of death from all causes were (1) heart disease, (2) cerebrovascular diseases, and (3) malignant neoplasms.

Table 1
LIVE BIRTHS, INFANT MORTALITY, AND DEATHS ALL AGES: STATISTICS BY RACE, HAMPTON COUNTY, 1971-73

	White	*Non-White*
Live Births (3 yrs.)	398	623
Infant Mortality Rates per thousand	12.6	41.7
All Deaths (3 yrs.)	287	283

Source: S. C. Vital and Morbidity Statistics, S. C. Department of Health and Environmental Control, Division of Vital Records, 1973.

METHODS

A cluster sampling technique was employed to select participants. A map of Hampton County was divided into one-mile squares, 400 of which squares were inhabited. From these, 100 were randomly selected for sampling. Each square was mapped for the existence of dwellings which were then numbered for selection.

Ten local women hired as field interviewers were directed to contact each fourth house to establish initial contact with the household and obtain written consent by the head of household to participate in the study.

The biochemical and clinical phases of the survey were completed during November 11-23, 1972, at Hampton and Estill Health Centers. The clinics were held for four days in Estill and eight days in the Hampton Centers.

Blood samples of subjects were drawn by medical technologists into vacutainers containing no

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anti-coagulant for sera cholesterol assays.

Unfortunately, response rates for whites was insufficiently high for inclusion of their data in this report. Thus, cholesterol and blood pressure data will be shown only for Blacks. Serum cholesterol was analyzed by Hycel Cholesterol Determinations.[3]

Blood pressure measurements were made by Pressurometer, Model 1900 of Avionics Research Corporation.[4] This electronic monitor is a completely automated instrument for obtaining indirect brachial blood pressure within the measurement range of 30 to 250 mm Hg.

RESULTS AND DISCUSSION

Blood pressures of both male and female Blacks increased significantly with age (Table 2). The mean systolic blood pressure (SBP) increased from about 114 mm Hg in the pediatric age group to over 160 mm in the ages 55 years and above. There was also an increment of diastolic pressure (DBP) with each age range in both sexes. However, the usual population pattern for DBP was seen with the mean levels decreased after age 65.

Although these are cross sectional data, the increases in BP levels with increasing age, suggest a strong environmental influence if age represents the length of exposure to one's environment.

Table 3 gives the proportion by age group of the sample found to be hypertensive by the criteria of SBP ≥ 150 mm Hg and/or DBP ≥ 90 mm Hg. The data are shown in percentages meeting the criteria together with the number (n) who were measured to be hypertensive and the number (N) of individuals sampled.

These data confirm information given in Table 2 showing that the proportion of hypertensives also increase with age. Twenty-eight percent of the Black males and 34% of Black females of all ages are shown to be hypertensive. Considering ages 35 and above, it can be deduced from data in the table that about 70% of the Black population sampled was measured in this survey to be hypertensive. This is markedly above other population rates secured by sampling. Charleston Heart Study data show hypertensive rates of 40% to 50% in Black males and females 35 years and above in Charleston County in 1960.[5]

Table 2
MEAN ARTERIAL BLOOD PRESSURE, BY AGE, HAMPTON COUNTY, S. C., 1972

		Black Males		*Black Females*	
		$\bar{X}$	*SD*	$\bar{X}$	*SD*
≤ 14 yrs.	SBP	114.3	(13.7)	114.6	(14.0)
	DBP	63.8	(10.5)	65.6	(9.3)
		n=161		n=181	
15-24	SBP	132.0	(13.5)	126.9	(14.1)
	DBP	71.4	(10.5)	74.9	(11.2)
		n=66		n=119	
25-34	SBP	137.8	(23.1)	130.8	(15.8)
	DBP	77.4	(16.5)	84.9	(18.5)
		n=27		n=56	
35-44	SBP	147.4	(21.4)	142.3	(27.4)
	DBP	87.4	(14.1)	87.4	(15.3)
		n=23		n=43	
45-54	SBP	145.7	(19.3)	155.4	(24.8)
	DBP	88.3	(9.9)	96.4	(14.2)
		n=15		n=55	
55-64	SBP	161.9	(28.4)	163.0	(22.7)
	DBP	94.8	(19.9)	94.0	(13.5)
		n=32		n=51	
65+	SBP	163.7	(32.5)	164.5	(32.5)
	DBP	87.5	(17.3)	86.5	(14.1)
		n=33		n=59	

Table 3
PROPORTION OF SAMPLE FOUND TO BE HYPERTENSIVE (≥ 150 and/or ≥ 90) HAMPTON COUNTY, S. C., 1972

	Black Males		*Black Females*	
	%	*n/N*	%	*n/N*
≤ 14 yrs.	2.5	4/161	2.2	4/181
15-24	24.2	16/66	16.8	20/119
25-34	35.7	10/27	30.4	17/56
35-44	56.5	13/23	48.8	21/43
45-54	60.0	9/15	78.2	43/55
55-64	78.0	25/32	88.2	45/51
65+	72.7	24/33	74.6	44/59
All Ages	28.3	101/357	34.4	194/564

Mean cholesterol levels shown in Table 4 show a somewhat irregular pattern of increase with age. In the Black males this may be a function of relatively small sample size. Black female levels by age range appeared to be more stable, and presented a more consistent picture of increasing with age.

Table 4
MEAN TOTAL CHOLESTEROL VALUES, BY AGE, HAMPTON COUNTY, S. C., 1972

	Black Males	*Black Females*
≤ 14 yrs.	201.6 (46.5) n=58	208.2 (58.3) n=78
15-24	203.3 (65.1) n=55	216.0 (62.1) n=98
25-34	227.9 (36.1) n=26	231.3 (54.2) n=53
35-44	214.5 (56.4) n=20	243.2 (65.8) n=41
45-54	259.8 (60.9) n=15	238.1 (56.7) n=49
55-64	222.9 (50.1) n=31	261.5 (79.6) n=49
65+	220.5 (43.2) n=32	250.3 (56.8) n=54

While these data, particularly on blood pressure, suggest a major public health problem, they may have another very practical value. They may, indeed, provide the baseline with which to examine the effects of intervention efforts. □

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* * * * *

THE SCMA CME CALENDAR WILL APPEAR IN *THE JOURNAL* ON A QUARTERLY BASIS BEGINNING WITH THE SEPTEMBER ISSUE TO COVER CME EVENTS FOR OCTOBER THROUGH DECEMBER, 1981.

HEALTH SERVICE ADMINISTRATION IN CHINA

HARDY WICKWAR*

The health and hospital services of the People's Republic of China have become so distinctive in inputs, outputs and outcome as to constitute a series of shocks and challenges to the ways of thinking and acting of other countries, whether they be richer or poorer or industrially more or less developed. China has undergone so many revolutions in the last seventy years that an exploratory probe or snapshot as of a particular moment of time may be more useful than one more effort to disseminate the latest Chinese health care model before it becomes the last-but-one.

INPUTS

The resources dedicated to health reflect the plentifulness of manpower, the scarcity of capital, the low level of productivity and of purchasing power, and the problems of leadership that prevail among the billion citizens of that vast and tumultuous country.

Human resources invested in direct health services are in inverse ratio to those engaged in China's labor-intensive agriculture. The 2.5 million fulltime health workers amount to only 2.5 per 1,000 population compared with 20 per 1,000 population in industrially developed countries such as the United States. These workers are differently distributed among the various occupations and settings, with a lower proportion being in hospitals. Equally distinctive is China's effort to compensate to some extent with an estimated 5.5 million part-time and volunteer health care extenders expected to work in mines and factories and at the rice-roots level of most hamlets' production teams. As is usual at this level, reporting is imperfect and availability for health work varies with the weather and the harvest, so that exact numbers vary and are far from certain: the current estimate of "barefoot doctors" is 1.6 million.

The investment in physical resources similarly has diverse and incongruous but distinctive and innovative aspects. This centrally directed economy has done little or nothing yet to provide for the elaborate and impressive hospital facilities, technologies and amenities that have become symbolic of individuals' quest for personal health and survival in the world's richer countries. China's central government invests infinitely less in health care facilities than in transportation, irrigation and housing infrastructures or now in the tourist attractions that earn foreign exchange. Even metropolitan teaching hospitals have the air of physical hangovers from another age, which got their last building improvements in the 1950's, have since been permitted to run down, and continue to render service thanks only to human devotion and ingenuity. The capital city, in addition to famous hospitals due to past Rockefeller Foundation and Soviet aid, counts on Japanese friendship for donation of a contemporary-style hospital. Radiographic special procedures apparatus, a cardiac catheterization laboratory, a heart-lung pump and a hyperbaric chamber in a Shanghai teaching hospital are still so unique as to be custom made, from faculty designing to local handcrafting. CT scanners have not yet reached the 11 million population of Shanghai, and Beijing considers four an appropriate equipment for its 8 million residents. Below the hospitals of the ministry of health are those provided by counties and municipalities. Industrial plants, when allowed, have invested scarce capital in workers' clinics, and coal mines in their own hospitals, while occupational unions have run resort-area sanatoria for their members' convalescence. An unknown number of the agricultural communes, now numbered at 50,000, have invested local labor and materials in rustic clinics, which have taken their place among the range of new services and facilities that each commune that can afford to do so has been expected to provide for its village production brigades; and rural communes near metropolitan

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markets, such as are shown to visitors, are especially well placed to pay for this facility, to set a model, and to lessen the social distance between the facilities made available by the government to the urban worker and those the peasants are expected to provide for themselves.

Financial resources are necessarily scarce in a country where personal consumption averages only a dollar a day. For the wage-earning industrial worker health care is an in-kind fringe benefit provided, along with sick pay, by his place of work. For the peasant, it comes from such undistributed earnings as his commune and production brigade may set aside, helped by such small dues of a dollar or two a year as he may contribute from his meager cash earnings. Salaries of fulltime health workers have therefore been kept low, with a top of about $3,000 a year for the medical director of a teaching hospital (tax free; with fringe benefits including health care, rent at 10% of income and, at this level, use of an official car). To meet cost per patient day of some $16, a hospital may get about a quarter of its operating revenue from the level of government that sponsors it, and some three-quarters from the workplaces that pay the workers' health care bills. What matters, however, is not the microeconomics of the individual hospital budget, of which hospital administrators have only the vaguest notion, but the macroeconomic principle of earmarking part of the earnings from economic production to maintain and restore the economic productivity of the working population and the fiscal principle of decentralized and mandatory self-reliance so that socialized medicine shall not be a charge on a low-level national budget.

The leadership resources that have woven these other resources into their current pattern have been both professional and political. The professional leadership skills that have done their best to pull these disparate resources together have derived mainly from a remarkable culture transfer that endowed China in the early phases of its long succession of revolutions with a parody of what was then the latest American reform model: medical colleges functioning as though they were universities and operating their own teaching hospitals. (One is reminded of similar anomalies in Georgia and South Carolina.) On their relatively minor public health and community medicine side they had to accept low-cost rural health service, combining prevention with treatment, and relying heavily on part-time fieldworkers, since the demonstration projects of the 1930's and 1950's. On their relatively major clinical side, with remarkable continuity through most of the revolutions, they kept alive and cultivated what Mao Zedong considered an esoteric drive towards subspecialties, technology and research of Western inspiration.

It is, however, the political leadership inputs that have swung the institution-building emphases violently first one way and then another, and have major responsibility for the contradictions, complementarities and compromises, as well as the glaring gaps, that have given this health system its own distinctive dialectic. Mao Zedong, in trying to make himself time and again the voice of the peasant masses, contributed mightily not only to the qualitative revolution of a changed and indeed still changing rural social order, but also to the quantitative revolution of local allocation of human and physical resources to rural health services, according to a countrywide pattern prescribed from the top down and to a considerable extent implemented during and after the Cultural Revolution. Zhou Enlai and those who followed his line drove towards not only industrial production and the upbuilding of a class of organized urban wageearners, but also the survival of medical colleges and urban hospitals, wageearner access to hospitals, workplace contribution to workers' health care costs, trade union convalescent benefits, conservation and advancement of scientific and clinical expertise, and participation in world research and technology. The pity was that, in building up rural health care institutions, Mao weakened the urban institutions and suspended the medical colleges on which they depended.

OUTPUTS

The resources mobilized in this unique and characteristic manner have resulted in personal health services that are equally unique and characteristic in level of availability, access and quality.

Hospital beds are reported as nearly 2 per 1,000 population; but these include overnight beds in rural clinics, average lengths of stay of from two to four weeks in referral hospitals, and cribs as well as beds, so that short-stay institutional care is perhaps only one quarter as available as in the United States and other industrially

developed countries. On the other hand the fifty-year-old classical model of a geographical hierarchy of levels of care, demonstrated in China in the 1930's, has there been applied more systematically than in most countries, with levels of hospitals spreading from a few key metropolitan centers before 1949 down to most counties in the 1950's and to some communes in the 1960's, as well as down-to-earth noninstitutional care, both preventive and curative, in urban neighborhoods and workplaces and in rural communes.

Access to the personal health care system is to some extent assured, insofar as workers and peasants have a point of entry — the wage earner at his workplace and most peasants through their commune and its production brigades. It is also facilitated in that there are no social barriers set by institutions or physicians. On the other hand, the hierarchy of geographical levels makes for an all-important referral chain. For the peasant this is particularly long, running as it does from the barefoot doctor through the communal clinic and the county hospital before the provincial or metropolitan tertiary care hospital can be reached, with probably some links missing in the poorer communes. For the wageearner, referral from the workplace clinic is indispensable, but impossible if one is not or has not been regularly employed. There is little chance of self-referral for self-employed or irregularly hired coolies except through the crowd of hundreds or thousands a day at the emergency gate. The referral network, in China as everywhere, but reinforced there by systematized geographical levels of care, has thus become an effective although invisible and perhaps unintended means of rationing scarce institutional care, with one line of access for the cadres and regular wageearning workers, another for the peasant masses, and another again for the urban subproletariat.

Such quality of care as is to be found depends on the clinical side on devoted medical direction, open at the highest levels to worldwide medical science but also to a lesser extent to Chinese herbalist traditions, from which has come the famous recent extension of acupuncture from pain-control to anesthesia, especially in thyroidectomy and neurosurgery. Clinical excellence has been severely strained, however, by the breakdown in education and recruitment that occurred in the mid-'60's in the name of Mao's Cultural Revolution. Interdisciplinary teamwork may have been helped by the working of party committees; but these are hardly a substitute for trained but non-medical administrative cadres, especially in the hospitals, where the results of the shortage of both upper and middle management are obvious. Health care personnel, from metropolitan hospitals to communal clinics, have to work in physical facilities that have still to benefit from the attention of functionally minded architects. And how far down into the elemental rural health service this professional standard setting reaches is unknown. High length of stay suggests low intensivity of care: a Chinese hospital has no more of the labor intensivity than of the capital intensivity of the hospitals of industrially developed countries; whereas American hospitals had two employees per patient day in 1960, three in 1970 and four in 1980, Chinese hospitals made do with about 1.5 including physicians.

OUTCOMES

Personal health service has been only part of a wider effort to improve the Chinese people's opportunities of life and livelihood. Preventive measures have counted for much; but of these some of the most important have been the indirect prevention associated with changes in the whole political, social and economic order. Work for all, a roof over everyone's head, and food in every belly, have undoubtedly been at least as important. So have measures to check the partly or wholly man-made disasters of floods and civil war. So has the destruction of free enterprise in opium and prostitution. And so has the building up of public food reserves against the ever-recurring risk of famine.

Direct prevention has also played its part, with the public health measures that have cut down on such water-borne diseases as typhoid and cholera, and the mass campaigns of inoculation that have reduced tuberculosis and have helped exterminate smallpox here as elsewhere. Teaching hospitals complain that they can no longer find cases of venereal disease for the clinical education of young doctors, and that they have to invite county hospitals to send them cases of tuberculosis for teaching purposes.

China has also begun to face up to the demographic consequences of its health promotion and disease prevention successes. An effort has been made, since the end of the Cultural Revolu-

tion, to reward families that concentrate on a single child, to penalize workers that have more, and to make contraceptives available free to all.

As with many complex social patterns, the means are not readily available for disentangling the many causes and effects that are at work, or for guessing what the next steps and countersteps may be. At this point in time one notes, however, in China, among informed participants, a conviction that the health outcomes are real and that the increase in life expectancy and the decrease in population growth are becoming measurable, especially in the well-administered metropolitan areas.

One can probe social phenomena by use of many paradigms. The tradition has long been well established of analyzing and judging a complex and evolving situation by ethical norms or a philosophy of history. Here an effort has been made to introduce another dimension: to try to understand the Chinese health situation in a pragmatic way by adapting and applying to it a much used paradigm model that has proven convenient and helpful in the everyday practice of health planners elsewhere. □

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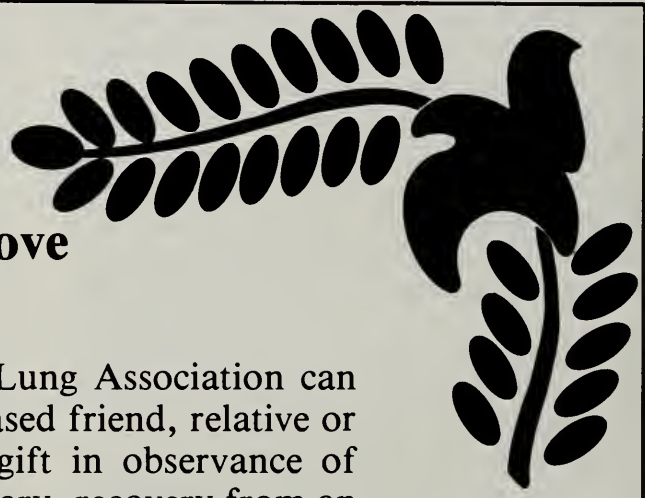

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Editorials

THE ANNUAL CONVENTION — PERHAPS THE BEST EVER?

A perennial plea in these pages is that *all* South Carolina physicians should belong to SCMA, for a variety of reasons. Those who attended the 133rd annual meeting in Charleston will no doubt spread the word that there is yet another compelling reason to belong to SCMA — the right to attend a fabulous annual meeting!

The host city was well-prepared. Facilities were adequate. The scientific sessions were worthwhile and well-coordinated. The social functions — especially the extravagant plantation feast on Friday evening — were delightful. Problems seemed to be minimal.

The success of the 133rd annual meeting should encourage even wider attendance in future years. One can envision that more and more specialty societies will begin to coordinate their yearly meetings with the SCMA annual meeting, making the occasion increasingly representative of medicine in South Carolina.

— CSB

Editorial Note: Pictorial Highlights of the 1981 Annual Meeting appear later in this issue of The Journal.

EOSINOPHILES IN SPUTUM

Clinical microscopy is usually performed by technicians, but the value of physician examination of clinical specimens can be immense. In this issue, Dr. Wilson describes his experience with microscopic examination of unstained sputum specimens. The "sputum wet prep," like examination of peripheral blood smears, Gram stains, and urine sediments, can be performed rapidly and sometimes affords enormous insights into the patient's problem.

Popularized by Epstein,[1] the technique takes only one or two minutes to perform. One places a representative fleck of sputum on a glass slide, taps a cover slip into place, and scans the slide using the low power objective to make sure that the sample represents sputum (leukocytes and/or alveolar macrophages) rather than saliva (squamous epithelial cells). Reassured that the sample represents sputum, one proceeds to the oil immersion lens. With a little practice, eosinophiles with their characteristically bilobed nuclei and large, non-motile, highly-refractile, uniform granules can be distinguished easily from neutrophiles with their multi-lobed nuclei and granules of varying sizes which often dance about by Brownian movement. While in the learning phase, one can remove the cover slip and stain the slide with Wright's stain to confirm these observations.

Recognition of sputum eosinophilia carries a number of implications. Epstein popularized the concept that the asthmatic patient whose sputum shows 100 percent eosinophiles does *not* need antibiotics but rather hydration, bronchodilators, and perhaps corticosteroids. Since his publication, use of corticosteroids has become almost routine for asthmatic patients requiring hospitalization for acute exacerbations, but Epstein's observations remain valid. Dr. Wilson suggests that the wet prep may also be extremely

useful for distinguishing between infectious and non-infectious exacerbations of chronic lung disease.

Several aspects of the sputum wet prep deserve comment. First, in office practice, patients with asthma or chronic lung disease can be instructed to bring with them, on office visits, a fresh sample of expectorated sputum, placed in a clean (but not sterile) container such as a Mason jar. Examination of the specimen discloses whether therapy of asthma is adequate (corticosteroid therapy, for instance, should reduce *tissue* eosinopenia — reflected in the sputum) or whether infection (increased number of neutrophiles) is likely to be present.

Secondly, a wide variety of conditions involving the lungs may produce sputum eosinophilia, which may have great diagnostic value.[2] It should be noted that tissue eosinophilia can be present without peripheral blood eosinophilia. Further, the sputum wet prep is no doubt simpler and cheaper than the total eosinophile count on peripheral blood.

Finally, the technique reveals a number of interesting structures in addition to eosinophiles and neutrophiles — fat-laden macrophages (perhaps the easiest way to diagnose lipoid pneumonia), ciliated epithelial cells, corpora amylacea, Curschmann spirals, and Charcot-Leyden crystals. Things once memorized in the second year of medical school and long-since forgotten become suddenly alive and relevant. Above all, the sputum wet prep — as Dr. Wilson points out — is fun!

— CSB

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NEW SYNDROMES FROM STAPHYLOCOCCI

Some diseases assume importance disproportionate to their quantitative significance either because of great public interest or because of biologic implications. Such an entity is the toxic-shock syndrome, described by Dr. William F. James in this issue.

Although the toxic-shock syndrome has become almost synonymous with tampon-using adult women, we should remember that the first report was in children. In that report, Todd and Welch described a previously-unknown staphylococcal toxin which caused a Nikolsky sign when injected into the skin of newborn mice, the epidermal cleavage plane being at or below the basal cell layer. This toxin thus differed from the previously-discovered exfoliative toxins produced by phage group II staphylococci, which cause an epidermal cleavage plane within the granular cell layer. Recently, it was reported that 94 percent of *S. aureus* strains isolated from 65 patients with toxic-shock syndrome produced an enterotoxin-like protein.[1] Since the signs and symptoms of the syndrome resemble the effects of large doses of staphylococcal enterotoxins given to rhesus monkeys, it is becoming increasingly clear that this is a toxin-related phenomenon.

The syndrome is so distinctive — especially in its cutaneous manifestations — that one wonders why it wasn't recognized earlier. Recent editorialists noted that "Staphylococcus aureus has . . . served as a bellwether for adaptive changes in microorganisms,"[2] which can only make us fearsome of things to come.

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WHAT ABOUT COFFEE, DOCTOR?

"I have measured out my life with coffee spoons."
— T. S. Eliot

In the three centuries since it became fashionable in the western world, coffee has become linked with nearly every epidemiologically-important disease. Of particular concern was the possible relationship to ischemic heart disease. Two large studies, one in Framingham, Massachusetts and the other in Evans County, Georgia, disproved this notion. As recently as three years ago, coffee seemed exculpated from nearly all allegations — including not only ischemic heart disease but also hypertension, stroke, diabetes mellitus, hyperuricemia and gout, cirrhosis, peptic ulcer, and carcinomas of the bladder, kidney, colon, and prostate.[1] The editor of JAMA commented that the findings should "cheer the coffee drinker" which was especially important because coffee "is no ordinary drink . . . it is a way of life."[2]

The recent report that coffee might have a "strong association" with carcinoma of the pancreas[3] attracted national attention and will no doubt reverberate through physicians' offices for years to come. The study was impressive because it came from reputable investigators and even suggested a dose-response relationship. Even if untrue, it seems likely to require years to disprove. Should physicians give up coffee as an example to the public? On the basis of the present data, probably not. But I am delighted to report that, as a former addict who was seldom seen in hospital corridors *without* a styrofoam cup filled with that beverage, it *is* possible to give up coffee, survive the ordeal of withdrawal, and even *feel* better!

— CSB

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LETTERS TO THE EDITOR WELCOMED!

The Editorial Board of *The Journal* met at the Annual Meeting on May 15, 1981.

As a cost-savings measure to SCMA, it was suggested that the quarterly CME Calendar, the monthly Newsletter, and the Legislative Update be included in *The Journal*. These additions would take the form of inserts, and would not decrease the number of pages allowed for articles currently being included under our editorial policy. We look forward to the response of our readership concerning the effectiveness of this means of transmitting vital information.

The editorial philosophy with regard to *Journal* content was reviewed. It was agreed that *The Journal* exists especially as a place for South Carolina practicing physicians to submit their scholarly work and also serves as a place for timely review articles by institution-based physicians. It was noted that, especially with the impetus provided by the two Roe Foundation Awards, the quantity and quality of manuscripts have increased.

Letters to the Editor were also discussed. *The Journal* continues to welcome submission of Letters to the Editor either in response to articles or as short, independent contributions. Such letters often stimulate dialogue. We feel the Letters to the Editor page is an appropriate place for practicing physicians to express their opinions!

— CSB

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CYCLAPEN®-W (cyclacillin)

Indications
Cyclacillin has less in vitra activity than ather drugs in the ampicillin class and its use shauld be canfined ta these indicatians: Treatment of the fallawing infectians:
RESPIRATORY TRACT
Tansillitis and pharyngitis caused by Group A beta-hemalytic streptacacci
Branchitis and pneumania caused by *S. pneumaniae* (farmerly *D. pneumaniae*)
Otitis media caused by *S. pneumaniae* (farmerly *D. pneumaniae*) and *H. influenzae*
Acute exacerbation af chranic bronchitis caused by *H. influenzae**
*Thaugh clinical impravement has been shawn, bacterialagic cures cannat be expected in all patients with chranic respiratory disease due to *H. influenzae*.
SKIN AND SKIN STRUCTURES (integumentary) infectians caused by Group A beta-hemalytic streptacacci and staphylacacci, nanpenicillinase praducers.
URINARY TRACT INFECTIONS caused by *E. cali* and *P. mirabilis*. (This drug shauld not be used in any *E. cali* and *P. mirabilis* infectians ather than urinary tract.)
NOTE: Perform cultures and susceptibility tests initially and during treatment ta manitar effectiveness of therapy and susceptibility af bacteria. Therapy may be instituted priar ta results of sensitivity testing.

Contraindications Contraindicated in individuals with history af an allergic reaction ta penicillins.

Warnings Cyclacillin shauld anly be prescribed far the indicatians listed herein.

Cyclacillin has less in vitra activity than ather drugs af the ampicillin class. Hawever, clinical trials demanstrated it is efficacious far recommended indicatians.

Seriaus and accasianal fatal hypersensitivity (anaphylactaid) reactians have been reported in patients an penicillin. Althaugh anaphylaxis is mare frequent fallawing parenteral use, it has accurred in patients an aral penicillins. These reactians are mare apt ta accur in individuals with history af sensitivity ta multiple allergens. There are reparts af patients with history af penicillin hypersensitivity reactians who experienced severe hypersensitivity reactions when treated with a cephalasparin. Before penicillin therapy, carefully inquire about previaus hypersensitivity reactians ta penicillins, cephalasparins and ather allergens. If allergic reactian accurs, discantinue drug and initiate appraprate therapy. Seriaus anaphylactaid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steraids, airway management, including intubatian, shauld alsa be administered as indicated.

Precautions Pralanged use af antibiatics may prama avergrawth af nansusceptible organisms. If superinfectian accurs, take appraprate measures.
PREGNANCY: Pregnancy Catagory B. Reproductian studies parfarmed in mice and rats at dases up ta 10 times the human dase revealed na evidence af impaired fertility ar harm to the fetus due to cyclacillin. There are, hawever, na adequate and well-controlled studies in pregnant wamen. Because animal repraduction studies are nat always predictive af human resparse, use this drug during pregnancy only if clearly needed.
NURSING MOTHERS: It is nat knawn whether this drug is excreted in human milk. Because many drugs are, exercise cautian when cyclacillin is given ta a nursing waman.

Adverse Reactions Oral cyclacillin is generally well talerated. As with ather penicillins, untaward sensitivity reactians are likely, particularly in thase wha previasly demanstrated penicillin hypersensitivity or with history af allergy, asthma, hay fever, or urticaria. Adverse reactions reparted with cyclacillin: diarrhea (in apraximately 1 aut af 20 patients treated), nausea and vamiting (in apraximately 1 in 50), and skin rash (in apraximately 1 in 60). Isalated instances af headache, dizziness, abdaminal pain, vaginitis, and urticaria have been reparted. (See WARNINGS) Other less frequent adverse reactions which may accur and are reparted with ather penicillins are anemia, thrambacytapenia, thrambocytapenic purpura, leukapenia, neutropenia and easinaphilia. These reactions are usually reversible on discantinuatian af therapy.
As with ather semisynthetic penicillins, SGOT elevatians have been reparted.
As with antibiatic therapy generally, cantinue treatment at least 48 ta 72 haurs after patient becames asymptamatic ar until bacterial eradication is evidenced. In Graup A beta-hemalytic streptacaccal infectians, at least 10 days' treatment is recammended ta guard against risk af rheumatic fever ar glamerulanephritis. In chranic urinary tract infection, frequent bacteriaglagic and clinical appraisal is necessary during therapy and passibly for several months after. Persistent infectian may require treatment for several weeks.
Cyclacillin is nat indicated in children under 2 manths of age.
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Branchitis and Pneumania		
Mild ar Maderate Infectians	250 mg q.i.d.	50 mg/kg/day q.i.d.
Chranic Infectians	500 mg q.i.d.	100 mg/kg/day q.i.d.
Otitis Media	250 mg to 500 mg q.i.d.†	50 ta 100 mg/kg/day†
Skin & Skin Structures	250 mg to 500 mg q.i.d.†	50 ta 100 mg/kg/day†
Urinary Tract	500 mg q.i.d.	100 mg/kg/day

*Dasage shauld nat result in a dase higher than that for adults.
†depending an severity

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President's Page

PRESENT TURMOIL IN MEDICAL EDUCATION

The AMA has exerted considerable influence on medical education in this country since its Flexner Report early in this century. In the past year, the AMA has once again begun a rather massive study of the future of medical education in the United States. The Board of Trustees and the various Councils are continuing such a study of the many facets of the education of physicians and others involved with the medical care of the people of this country.

Space does not permit me to go into all of the problems. However, let me touch on one situation under study which will affect all of us as physicians, as well as the health of our patients. The 1972 Health Manpower Bill established a National Advisory Council on Health Professions Education, and for four years put many hundreds of millions of dollars through this Council in an effort to overcome the physician shortage. I served on this Council during these years and was gratified to be a part of the establishment of family practice residencies over the United States. Also, much of our efforts dealt with construction grants to the various medical schools from which MUSC gained considerably.

Perhaps the most significant effort was rather hefty grants to medical schools which increased the number of medical students. This resulted in an unforeseen rush of the medical schools for federal funds and left us two side effects with which we must deal in the next decade: first, a surplus of physicians in the near future and, secondly (now that these federal funds have dried up), medical school budgets which can only be met by markedly increasing medical school tuition.

GMENAC, a committee of the government, was formed to look into these problems. Its final report has been, to some extent, controversial. However, if it is read very carefully, I think parts of it are very worthwhile. Perhaps the GMENAC report, having been supported by the government, rendered it suspect by some; however, it was chaired by Dr. Stelmach, a former AAFP President, and had Dr. Nesbitt, a former AMA President, as a member. Both of these physicians supported the report. At the same time, they admit it is not the final word from above, particularly in its distribution of specialties.

The real figures of this report which must give us pause for thought are the fact that 150,000 new physicians will be produced by 1990. In 1990, we will have a surplus of 70,000 M.D.'s in the United States; further, that this figure is a minimum; the surplus may be nearer 80,000 or more. GMENAC proposed as a remedy for this a 10 percent across-the-board decrease in freshman medical classes in the country.

The second problem of the 1980's for medical education deals with the soaring cost of tuition, up to around $20,000 a year in some schools. These increases are very much beyond inflation and are due in the main to the federal monies to medical schools being cut back or abolished. The problem was manifested recently in Chicago at the AMA meeting when the medical students and residents approached the House of Delegates with numerous Resolutions asking for help. This is perhaps one of the reasons that this year we have, in round numbers, only 33,000 applications for 16,000 medical school positions. Even more significant is that there are only 1.2 first-time applicants for each first year medical school position.

The next decade will bring some changes in medicine as we know it. The private sector of medicine must stay well-organized and abreast of all these happenings.

WHHunter, MD

William H. Hunter, M.D., *President*

133RD ANNUAL MEETING PICTORIAL HIGHLIGHTS

Halsted M. Stone, M.D., presenting the A. H. Robins' Physician's Award for Community Service to John M. Preston, M.D.

Journal Editor, Charles S. Bryan, M.D., presents the first Roe Foundation Award of $5,000 to Milton Sarlin, M.D., of Pacolet.

William H. Hunter, M.D., is sworn in as the 117th President of the South Carolina Medical Association by Euta M. Colvin, M.D., then Chairman of Council, as Halsted M. Stone, M.D., looks on.

C. Tucker Weston, M.D., introduces to the SCMA House of Delegates Lowell Steen, M.D., Chairman of the AMA Board of Trustees.

Representative Thomas Hartnett from South Carolina's First Congressional District speaks to guests at the SOCPAC-sponsored Antebellum Plantation Feast.

133RD ANNUAL MEETING PICTORIAL HIGHLIGHTS

Halsted M. Stone, M.D., is shown placing the President's medallion on newly-installed President, William H. Hunter, M.D. The medallion was presented to the SCMA by former President J. D. Gilland, M.D., in memory of his son.

Mr. Thomas A. Roe, Chairman of The Roe Foundation, shown after he was presented the first annual President's Award to a Layman for his interest in and support of the medical profession.

President-Elect Euta M. Colvin, M.D., with his wife Dorothy, at the President's luncheon.

J. Frank Biggers, III, M.D., shown dancing with wife, Anne, to the music of The Early Days Jazz Band, after the Antebellum Plantation Feast.

Halsted M. Stone, M.D., with his gift from the SCMA in appreciation of his service as President, 1980-1981. Hopefully, his golf score will soon improve.

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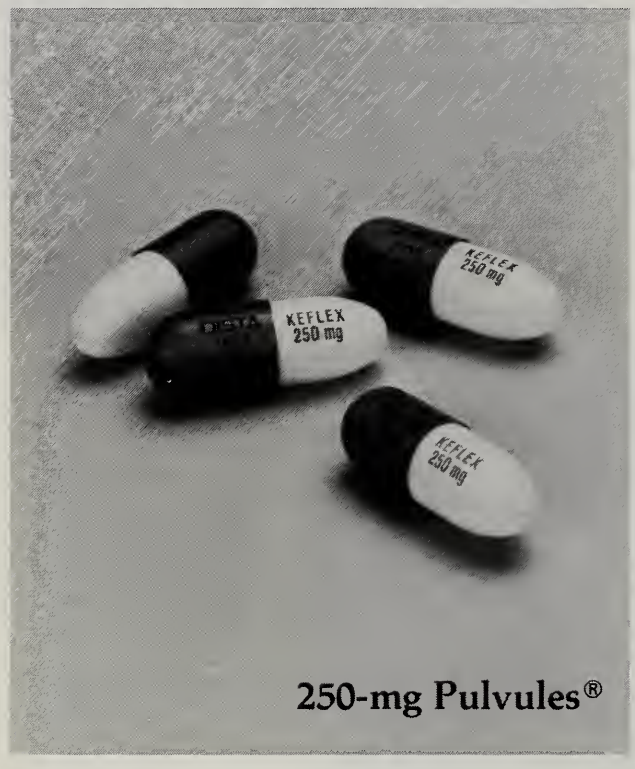

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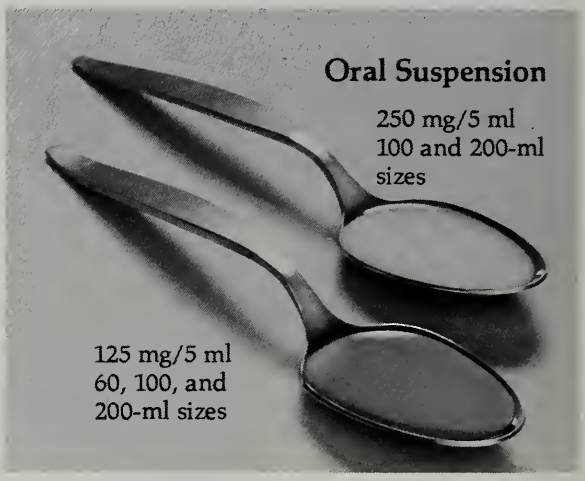

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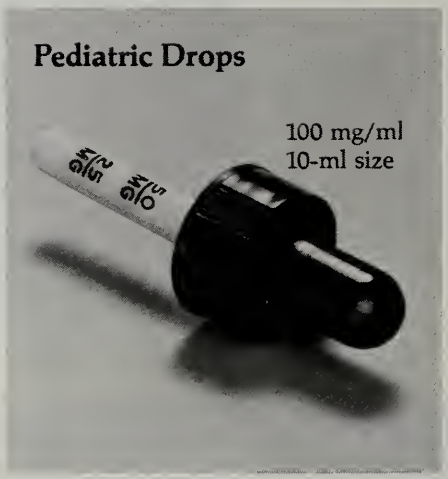

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CONTRAINDICATIONS: Hypersensitivity to aspirin or codeine.

WARNINGS:

Drug dependence: Empirin with Codeine can produce drug dependence of the morphine type and, therefore, has the potential for being abused. Psychic dependence, physical dependence, and tolerance may develop upon repeated administration of this drug and it should be prescribed and administered with the same degree of caution appropriate to the use of other oral, narcotic-containing medications. Like other narcotic-containing medications, the drug is subject to the Federal Controlled Substances Act.

Use in ambulatory patients: Empirin with Codeine may impair the mental and/or physical abilities required for the performance of potentially hazardous tasks such as driving a car or operating machinery. The patient using this drug should be cautioned accordingly.

Interaction with other central nervous system (CNS) depressants: Patients receiving other narcotic analgesics, general anesthetics, phenothiazines, other tranquilizers, sedative-hypnotics, or other CNS depressants (including alcohol) concomitantly with Empirin with Codeine may exhibit an additive CNS depression. When such combined therapy is contemplated, the dose of one or both agents should be reduced.

Use in pregnancy: Safe use in pregnancy has not been established relative to possible adverse effects on fetal development. Therefore, Empirin with Codeine should not be used in pregnant women unless, in the judgment of the physician, the potential benefits outweigh the possible hazards.

PRECAUTIONS:

Head injury and increased intracranial pressure: The respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions or a pre-existing increase in intracranial pressure. Furthermore, narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries.

Acute abdominal conditions: The administration of Empirin with Codeine or other narcotics may obscure the diagnosis or clinical course in patients with acute abdominal conditions.

Allergic: Precautions should be taken in administering salicylates to persons with known allergies: patients with nasal polyps are more likely to be hypersensitive to aspirin.

Special risk patients: Empirin with Codeine should be given with caution to certain patients such as the elderly or debilitated, and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, prostatic hypertrophy or urethral stricture, peptic ulcer, or coagulation disorders.

ADVERSE REACTIONS: The most frequently observed adverse reactions to codeine include light-headedness, dizziness, sedation, nausea and vomiting. These effects seem to be more prominent in ambulatory than in nonambulatory patients and some of these adverse reactions may be alleviated if the patient lies down. Other adverse reactions include euphoria, dysphoria, constipation, and pruritus.

The most frequently observed reactions to aspirin include headache, vertigo, ringing in the ears, mental confusion, drowsiness, sweating, thirst, nausea, and vomiting. Occasional patients experience gastric irritation and bleeding with aspirin. Some patients are unable to take salicylates without developing nausea and vomiting. Hypersensitivity may be manifested by a skin rash or even an anaphylactic reaction. With these exceptions, most of the side effects occur after repeated administration of large doses.

DOSAGE AND ADMINISTRATION: Dosage should be adjusted according to the severity of the pain and the response of the patient. It may occasionally be necessary to exceed the usual dosage recommended below in cases of more severe pain or in those patients who have become tolerant to the analgesic effect of narcotics. Empirin with Codeine is given orally. The usual adult dose for Empirin with Codeine No. 2 and No. 3 is one or two tablets every four hours as required. The usual adult dose for Empirin with Codeine No. 4 is one tablet every four hours as required.

DRUG INTERACTIONS: The CNS depressant effects of Empirin with Codeine may be additive with that of other CNS depressants. See WARNINGS.

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SOUTH CAROLINA MEDICAL AUXILIARY RECEIVES NINE MEMBERSHIP AWARDS

Chicago's Drake Hotel was the setting of some well deserved recognition for the South Carolina Medical Auxiliary. Even though South Carolina had one of the smaller delegations at the AMAA National Convention, it received more awards than any single other state.

Mrs. S. Perry Davis, Pinewood, (1980-81 Membership Chairman) and Mrs. Michael Grayson, Charleston, (Resident Physician Medical Student Spouse Chairman) and Auxiliary members throughout the state have worked diligently to achieve their goals. Their hard work was evident at the National Convention early this past June.

The AMA Auxiliary is divided geographically into four regions. In the Southern Region which comprises twelve states, South Carolina received the award for the greatest increase in membership in the Region. South Carolina also received the award for the greatest percentage increase in the Southern Region, up 10.6 percent. This is the second year for this particular award, and South Carolina is the only state in the nation to receive it both years.

South Carolina received three regional awards for the formation of new auxiliaries. They were Aiken, Cherokee and Georgetown counties. Only 17 new county auxiliaries were organized in the United States this year.

In the tremendously important area of Resident Physician Medical Student Spouses, South Carolina received the award for the most new memberships in that category in the Southern Region, and the national award for the most in any state in the U. S.

A grand award was also given to South Carolina for the greatest over-all increase in membership this year, of all 50 auxiliaries. Because of that 10.6 percentage increase, a special monetary award of $150.00 was also given to South Carolina. (Alaska was the only other state to receive this monetary award.)

Delegates from South Carolina attending the convention were: Mrs. Walter L. Gaillard, Anderson, (State President 1981-82); Mrs. Carl H. Almond, Columbia, (Editor, South Carolina

AMAA Convention Delegates: (from left) Mrs. Perry Davis (Pinewood); Mrs. Carl H. Almond (Columbia); Mrs. Arthur LaBruce (Charleston); Mrs. Leonard Douglas (Belton); Mrs. Kenneth Smith (Anderson).

SCMAA Booster Club: (from left) Leonard Douglas, M.D., Belton (Vice Chairman, SCMA Council); Randolph Smoak, M.D., Orangeburg (Chairman, SCMA Council); Charlie Johnson, Columbia (Executive Vice President, SCMA); Euta Colvin, M.D., Spartanburg (President-Elect, SCMA); Donald Kilgore, M.D., Greenville (Alternate Delegate, AMA Convention).

South Carolina AMA and AMAA Convention Delegates pictured here with Mrs. Wayne C. Brady, Greenville (AMAA Southern Region Vice President).

(From left) South Carolina Auxilians attending National Convention: Mrs. Walter Gaillard, Mrs. Perry Davis, Mrs. Arthur LaBruce, Mrs. Carl H. Almond, Mrs. Leonard Douglas, Mrs. Kenneth Smith.

Past — Present — Future SCMAA Presidents: (from left) Mrs. Walter Gaillard, Judy (SCMAA President); Mrs. Perry Davis, Sheila (SCMAA President-Elect); Mrs. Arthur LaBruce, Karin (SCMAA Immediate Past President).

Auxiliary News); Mrs. S. Perry Davis, Pinewood, (State President Elect); Mrs. Arthur M. LaBruce, Charleston, (Immediate Past President); and Mrs. Kenneth W. Smith, Anderson (Convention Co-Chairman, 1981-82). Also attending were Mrs. Wayne C. Brady, Greenville, as Southern Regional Vice President and Mrs. Leonard W. Douglas, Belton, (1982-82 Convention Co-Chairman) as Alternate Delegate.

South Carolina has two representatives on the AMA Auxiliary National Board of Directors this year. They are Mrs. Arthur M. LaBruce (Charleston), serving as House Projects Chairman from the Southern Region, and Mrs. Wayne C. Brady (Greenville) serving as Southern Regional Vice President. It is quite an honor to have these two representatives on the National Board of Directors, and it is quite an asset to that Board to have two such dedicated and supportive members.

Among the Resolutions passed by the National Assembly were some extremely important ones in the area of health and health education. The AMAA recommended that their national "Shape Up for Life" Campaign be extended to include a third year, emphasizing "Stress Management." This campaign will advance the concept of preventive medicine. Community support for infant and child safety programs Resolutions have been adopted nationally by the Auxiliary. Education of parents at the community level to use dynamically tested infant safety seats and safety belts will become Auxiliary projects nationwide. A Resolution endorsing improvement of public awareness and acceptance of the concept of organ donations through "Organ Donation Weeks" on the state level was adopted by the National AMAA Congress.

The South Carolina Medical Auxiliary is honored by its national recognition and grateful for the support of the South Carolina Medical Association. With this type of encouragement, Auxiliary members will continue to work even harder in the many areas of medically-related community service projects.

Editorial Note: Auxiliary information is furnished by Auxiliary Liaison to The Journal, *Mrs. Carl H. Almond (Nancy).*

CLASSIFIED

EMERGENCY PHYSICIANS: Vacancy for one full-time physician effective June 1, 1981. Established group. ED 30,000 visits a year. Rural setting. Salary competitive. Respond with CV to: *Aiken Emergency Physicians, P.A., 216 Edgefield Ave, NW, Aiken, SC 29801.*

COMPHEALTH — Locum Tenens — Physicians covering physicians, nationwide, all specialties. We provide cost effective quality care. Call us day or night. *T. C. Kolff, MD, President, CompHealth, 175 W. 200 S., Salt Lake City, Utah 84101, (801) 532-1200*

SOUTH CAROLINA — GREENVILLE: Individual lots for sale in new 4 acre professional court in fastest growing area of Geenville county. We plan to limit sales to one office from each medical and dental specialty and to a small number of general practitioners.

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From the State House: LEGISLATIVE UPDATE

This is the first issue of the Legislative Update in the current format. The Update can be removed by gently separating it from the back of the page. We urge you to do this and keep your copies in a separate notebook for future reference. We hope South Carolina physicians will adapt to reading the Update when they read the Journal.

"SUNSET" LEGISLATION

S.194, introduced by legislators sitting on the Reorganization ("Sunset") Commission, has passed and been signed into law by the Governor. The bill, in its original form, would have drastically altered the State Board of Medical Examiners. Its major provisions would have put two consumers on the Board, a Physician's Assistant as a sitting Board member, and would have instituted a complicated election process (without SCMA input) with the Governor having de facto veto power over all nominees.

We were able to muster the passage of amendments that now allow only one consumer Board member, "visiting" rights by a nominee from the Physician's Assistant community to speak to the Board on issues dealing with PA's (without voting power) and a process whereby SCMA essentially keeps its nominating and election rights.

We are quite pleased with these provisions--especially in light of disasters that have befallen other states' medical boards in the so-called "sunset" process.

CHIROPRACTIC

Chiropractors are once again taking the spotlight. In early March the State Board of Chiropractic Examiners attempted to promulgate regulations that would, among other things, give Chiropractors automatic hospital privileges along with automatic rights to x-rays taken by physicians, establish Chiropractors as primary health care providers, allow Chiropractors to attest to the degree of disability (unlimited) and impairment of a patient, sigh death certificates and open up ambiguous loopholes for the Chiropractor to move closer to "physician" status.

After the SCMA twice convinced the House Medical Affairs Committee to demand that the Chiropractic Board rewrite their regulations, these rewritten regulations were allowed to go into effect, with most of the offending language deleted.

SCMA has facilitated (in conjunction with representatives of the S. C. Hospital Association and Blue/Cross/Blue Shield of S. C.) the introduction of bills in both the Senate and House to adequately define Chiropractic practice. This legislation will "carry over" until the 1982 session. In the meantime, the Medical Affairs Committees of both the House and Senate plan joint hearings on these bills sometime in late October or November. Be prepared to urge your legislator to support these bills within the next two months.

PHYSICIAN OFFICE PERSONNEL

H.2044 and H.2452, our legislation to have the statutory laws reflect the

physician's long-standing right to utilize unlicensed medical personnel in his private office practice, has been stymied in the Medical Affairs Committees. Opponents to this legislation were able to tack amendments onto the bills which would have the possible effect of doing more harm than good to physicians and their practices. SCMA is consulting with Legislative leaders regarding possible "corrective" amendments. As a possible alternative, SCMA may foster the introduction of separate legislation at a later date to solve the potential problem of statutory authority for physician utilization of unlicensed personnel. In the meantime, this particular legislation will carry over until the 1982 session.

INSURANCE "EQUALITY" LEGISLATION

Nurses and other health professionals have been disturbed by the fact that they are not specifically provided for in most insurance policies. They feel that, if they provide a service that a physician provides and they can perform such service, then they should receive like reimbursement. Several bills introduced this year (for optometrists, podiatrists, nurses, psychologists, chiropractors, etc.) will mandate such respective coverage in every health insurance policy. The House Labor, Commerce and Industry sub-committee has been studying this legislation and recently decided to "continue" (carry over) these bills. No action will be taken this year. Without our input, there is a better than 50-50 chance that this legislation will be reported out in the 1982 legislative year--perhaps in the form of an omnibus bill (one piece of legislation encompassing all "health care providers").

This kind of legislation will cost the public an enormous amount in increased insurance premiums. Legislation passed in early 1980 which facilitated Chiropractic insurance benefits in certain group health policies caused the Blue Cross/Blue Shield payout rate to Chiropractors to increase from less than $5,000 per month to well over $100,000 per month.

Write your legislator--especially those listed below--and ask him to allow private insurance companies to include and exclude coverage based on the law of supply and demand (not overregulate them).

House labor, Commerce and Industry Committee

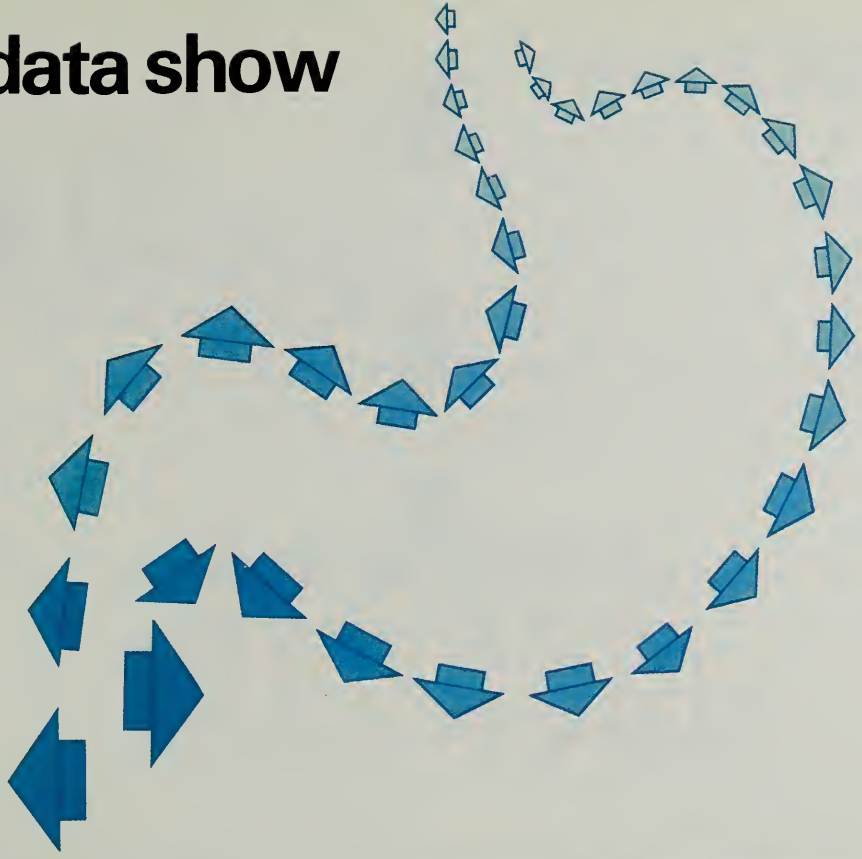
Rep. Clyde M. Dangerfield--Chmn. (Charleston)
Rep. Herbert C. Granger (Greenville)
Rep. S. Hunter Howard, Jr. (Fountain Inn)
**Rep. W. Sterling Anderson (Spartanburg)*
**Rep. Francis X. Archibald (Hanahan)*
Rep. Warren D. Arthur, IV (Hartsville)
**Rep. James N. Ashe, Sr. (Lockhart)*
Rep. John D. Bradley, III (Charleston)
**Rep. Wm. S. Branton, Jr. (Summerville)*
**Rep. T. Moffatt Burriss (Columbia)*
Rep. Ron L. Cobb (Greenville)
Rep. Virginia L. Crocker (Clinton)
Rep. Joyce C. Hearn (Columbia)
Rep. James E. Kinard, Jr. (Columbia)
**Rep. Robert A. Kohn (Chas. Heights)*
Rep. Larry A. Martin (Easley)
Rep. Earl M. Middleton (Orangeburg)
**Rep. Robert M. Tallon, Jr. (Florence)*

*Voted in favor of the Insurance Equality Legislation dealing with Nurses.

Address all correspondence to your Legislators c/o State House, Cola., S.C. 29201

The SCMA Officers and members of the Legislative Committee have embarked on a new program designed to dramatically increase physician influence at the State House. Look for details on the operation of the SCAPELL (South Carolina Auxiliary-Physician Educational Legislative Liaison) Program in the September SCMA Journal. Plan on being an active participant.

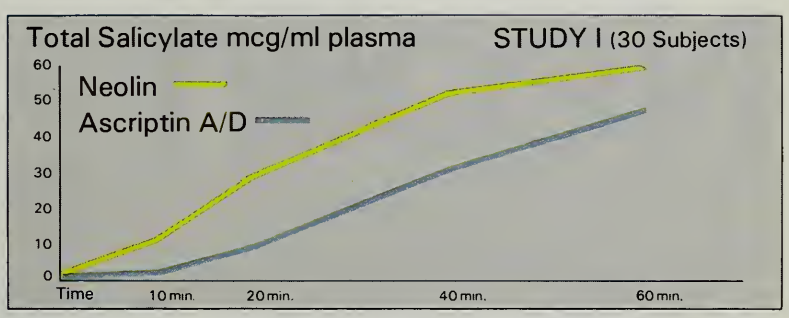
In vivo data show

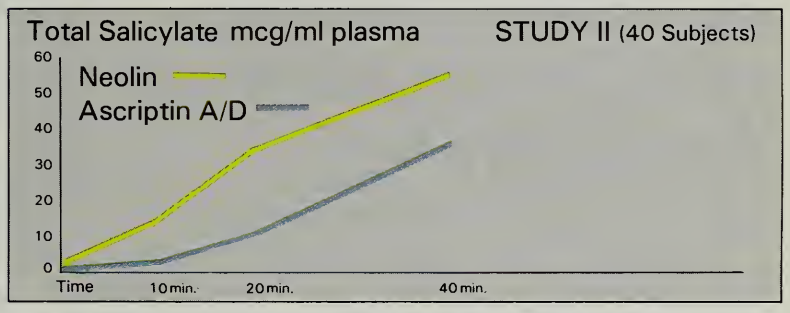


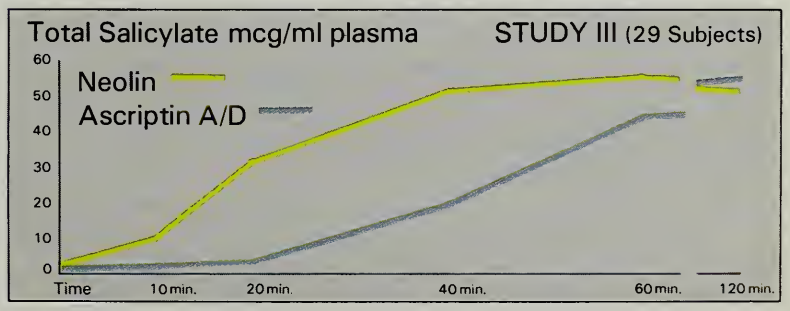
With greater acid-neutralizing capacity,

Neolin®

gets relief into circulation faster than Ascriptin® A/D







When salicylate blood levels of NEOLIN and Ascriptin A/D were compared in three separate crossover studies, total amounts were found to be higher for NEOLIN up to one hour after ingestion. (Volunteers took 2 five-grain tablets of either medication.) More rapid absorption with NEOLIN means more rapid availability for pain relief, particularly important to patients with osteoarthritis.

Neolin® the aspirin for today—and every day

Each capsule-shaped, scored tablet contains 324 mg aspirin, 225 mg magnesium carbonate and 200 mg calcium carbonate.

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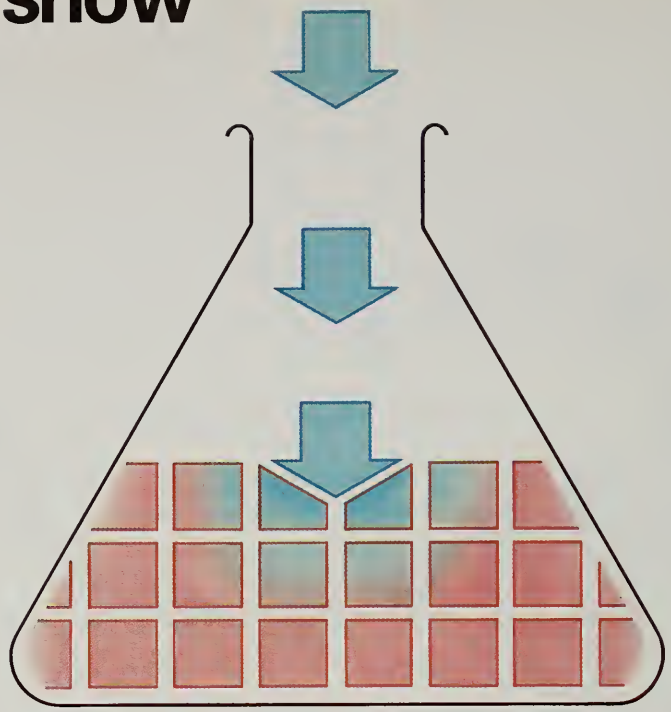
In vitro data show



Neolin®

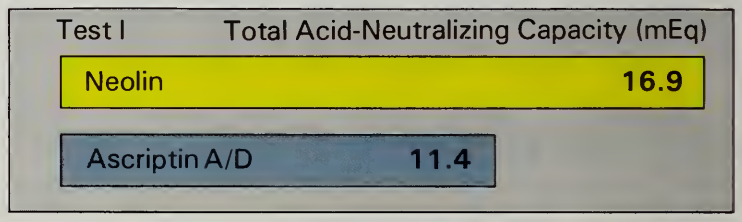
Each tablet contains 324 mg aspirin, 225 mg magnesium carbonate and 200 mg calcium carbonate.

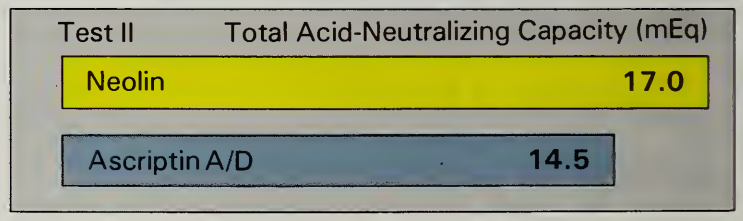
has greater acid-neutralizing effectiveness than Ascriptin® A/D

NEOLIN contains two proven effective acid-neutralizers, magnesium carbonate and calcium carbonate.

Ascriptin A/D, on the other hand, is formulated with magnesium hydroxide and aluminum hydroxide. Aluminum hydroxide has been reported to be a poorly effective acid-neutralizer.[1] Additionally, drying of this particular buffer, as must be done for tablet use, alters its structure, further reducing antacid efficacy.[2]

It is not suprising, therefore, that NEOLIN proved superior to Ascriptin A/D in two separate *in vitro* tests* designed to evaluate the acid-neutralizing capacity of buffered aspirin. These studies showed that NEOLIN had 17.2% to 48.2% greater acid-neutralizing capacity than did Ascriptin A/D.





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*Bristol-Myers Test Method designed to evaluate the acid-neutralizing capacity of buffered aspirin preparations using single tablet samples of NEOLIN and Ascriptin A/D. Each product stirred for 15 minutes in an excess of 0.1N HCl at 25 °C (Test I) and 37 °C (Test II) and back titrated with NaOH to pH 2.8.

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THE JOURNAL
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MEDICAL AND SURGICAL TREATMENT OF ANGINA

PETER C. GAZES, M.D.*

Coronary artery disease is ubiquitous and can occur without pain or with pain. Patients with sudden death, pulmonary edema, chronic heart failure, abnormal electrocardiogram, cardiac arrhythmias, abnormal x-ray or abnormal coronary arteriograms may have significant coronary disease yet they may not have experienced any painful episodes. Most patients without premonitory symptoms who have been resuscitated from sudden death due to ventricular fibrillation have been shown by coronary arteriography to have severe coronary disease. Pulmonary edema may be the first manifestation of coronary disease. Perhaps in such cases the discomfort is obscured by the acute dyspnea. It is most unusual for one with coronary disease to present as chronic heart failure without having had some coronary events. Electrocardiographic changes have been noted in individuals who subsequently on coronary arteriography have coronary disease and yet they may not have experienced any symptoms. Likewise, this can be noted in individuals with cardiac arrhythmias. Generally, if there is x-ray evidence of cardiomegaly a patient has had coronary symptoms. Today many individuals are having electrocardiographic stress tests. If the test is strongly positive at a low level of exercise, coronary arteriograms are performed and in many coronary disease has been found.

Usually, patients with coronary artery disease have some symptoms. Clinically, patients with symptoms can be divided into three syndromes: stable angina, unstable angina and myocardial infarction. Stable angina is defined as chronic effort angina that is predictable, recurrent with no change in the pattern of severity for twelve weeks or longer. The syndrome of coronary disease between stable angina and myocardial infarction has been given a variety of names. However, the majority are now using the term "unstable angina." Many criteria for unstable angina have been presented but I prefer the four types listed in Table 1, which I used in a ten-year prospective follow-up study of 140 patients with unstable angina.[1] Crescendo angina refers to angina that is increasing in intensity, duration, frequency and most often occurs at rest. This may occur as initial onset or it may occur suddenly in a patient with prior known stable angina. The second type of unstable angina is that which presents as prolonged episodes of pain, usually 15 minutes or longer, occuring at rest, usually with ST segment depression and revealing no evidence of myocardial infarction as demonstrated

Table 1.
ATHEROSCLEROTIC ANGINAL SYNDROMES

A. Stable Angina
B. Unstable Angina
   Type 1. Crescendo
   Type 2. Prolonged pain (intermediate syndrome)
   Type 3. Prinzmetal's (variant angina)
   Type 4. High-risk subgroup

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by serum enzyme changes or electrocardiographic changes. Some prefer to call this category "intermediate syndrome". Naturally, patients may have a combination of types 1 and 2. A third category of unstable angina is that of variant angina or so-called Prinzmetal's angina. Such patients have prolonged pain at rest with ST segment elevation. Frequently they have a high-grade lesion with superimposed spasm. About one-third may have normal coronary arteries. In my study of 140 patients with unstable angina the cumulative survival rate was as follows: 12 months: 82%; 24 months: 75%; 36 months: 69%; 60 months: 61%; and 120 months; 48%. Fifty-four of these patients were classified as a high-risk subgroup (type 4) because the patients continued to have prolonged episodes of angina at rest despite adequate therapy. Such patients often have had either prior stable angina or a previous infarction, or both. The cumulative survival rate for this high-risk subgroup was as follows: 12 months: 57%; 24 months: 47%; 36 months: 37%; 60 months: 27%; and 120 months: 19%. This ten-year natural history study has been used by many for comparison with patients who have had coronary bypass surgery for coronary artery disease. It has been a major stimulus for setting up criteria for this type of surgery, especially since in the future it will be very difficult to perform randomized studies comparing medical and surgical therapy.

MEDICAL TREATMENT OF ANGINA

Patients with stable angina are advised to take sublingual nitroglycerin as is necessary. It should be remembered that nitroglycerin is not specific for angina for it can relieve spasm in some gastrointestinal disorders such as colic due to gallstones. The patient should be carefully instructed in the proper use of nitroglycerin. I usually begin with a sublingual dose of .16 mg or .32 mg. Such small doses often do not produce headaches, which make the patient hesistate in taking it. The patient should be advised that nitroglycerin may be taken repeatedly without becoming ineffective or habit forming and that tolerance is uncommon. I usually advise the patient to take one tablet every 5 minutes for a total of 3 tablets and to seek medical aid if the pain persists longer, for a coronary occlusion may be developing. Postural hypotension can occur with excessive use of nitroglycerin. Many long-acting organic nitrates as isosorbide dinitrate or nitroglycerin ointment are available for the prevention of anginal attacks. At present, isorsorbide dinitrate is widely used. There has been much debate as to whether the oral use of such agents shows any significant effect. The smaller doses used previously probably were ineffective, because enough was not given to saturate the liver and allow for a sufficient amount to get into the circulation. It may take up to 20 to 40 mg four times per day orally to produce a hemodynamic effect.[2] Usually nitrates and beta blockers are given together since these two medications have some synergism. The beta blockers can be divided into the lipophilic types (propranolol and metoprolol), and the hydrophilic types (nadolol and atenolol). The lipophilic types are absorbed very well and cross the brain barrier. They are metabolized by the liver and have a plasma half-life of about six hours. The hydrophilic types are not absorbed well, do not cross the brain barrier, are excreted by the kidney and have a half-life up to 24 hours. Metoprolol and atenolol are cardioselective, however in higher doses this selectivity is lost. Atenolol is not as yet available in this country. The average dose of propranolol is usually 160 mg daily with a maximum of about 320 mg daily. The beta blockers should not be given in the presence of congestive heart failure, greater than first degree AV block, and in patients with chronic lung disease with asthmatic bronchitis. One should be very careful in diabetics for these drugs can mask and prolong hypoglycemia. Peripheral vascular disease may be aggravated. Sudden withdrawal of such drugs can produce an exaggerated cardiac B-adrenergic responsiveness with a marked exacerbation of angina, precipitation of arrhythmias or even acute myocardial infarction.[3] The hydrophilic types may produce less fatigue and cerebral symptoms since they do not cross the brain barrier. Recently it has been shown that spasm can occur with all syndromes of coronary disease, especially in the so-called variant angina. Calcium blockers have been effective for spasm but are not yet available.

Patients with unstable angina should be hospitalized and given the same treatment as for stable angina. The majority of physicians do not use anticoagulants today for this syndrome. If therapy with pharmacological agents fails to control symptoms and especially if the patient has any evidence of hemodynamic instability, the

intraaortic balloon can be used to support the patient. This will allow time for safe performance of coronary angiography in preparation for surgical revascularization.

Patients with Prinzmetal's or variant angina deserve special attention. This type of angina most often occurs at rest and hemodynamic studies during attacks have shown that the left ventricular systolic pressure drops and the end-diastolic pressure rises yet the heart rate may increase very little. These hemodynamic changes are noted before pain occurs. In fact, many patients will have hemodynamic changes, ST segment elevation and not experience any chest discomfort. There have been many theories to explain the vasoconstriction that occurs in Prinzmetal's angina. An increase in alpha adrenergic response has been considered yet patients have not responded well to alpha adrenergic blocking agents. Platelet aggregation has also been thought to be a factor yet patients have not responded to dipyridamole (Persantine) or aspirin. Calcium appears to be related to the contraction of vascular smooth muscle. Therefore, calcium antagonists have become the main form of therapy for variant angina. Nifedipine, verapamil and diltiazem are the current calcium antagonists that are being studied but are not yet available in this country. Of this group, nifedipine appears to have the greatest effect on the coronary arteries. Nifedipine does have some side effects such as dizziness, flushing, pedal edema, hypotension, weakness, nausea, muscle cramps and rash.

SURGICAL TREATMENT OF CORONARY DISEASE

The following patients I feel should have coronary arteriography in anticipation of surgery:

1. *Patients with a history of disabling chronic angina inadequately controlled with medical therapy* — The Randomized Veterans Administration Cooperative Study[4] has generated considerable debate. This study showed a surgical mortality of 5.6%, graft patency in one year 69%, perioperative myocardial infarction 18%, and 17% cross-over of medical patients to surgical therapy. Currently the surgical mortality should be 1%, graft patency one year 90%, and perioperative myocardial infarction 5%. Surgical proficiency has improved since the VA study. Even with its limitations, the VA study has shown that for left main disease the three-year survival rate for surgery is 83% and for medically treated patients 61% and for triple-vessel disease with mild left ventricular dysfunction a five-year survival for surgery is 85% and for the medical group 74%. Patients with unstable angina as defined previously should be treated actively prior to coronary arteriography. Usually I wait about 7 to 10 days after the patient's symptoms have subsided before advising coronary arteriography. In the event angina continues for 72 hours while the patient is at rest with maximum therapy (high-risk group described previously), then I would proceed immediately with coronary arteriography. Another course that some physicians prefer for those patients with unstable angina that respond to therapy is to wait for six weeks and then perform an electrocardiographic exercise test and depending on the results of this test consider coronary arteriography. However, I study all patients with unstable angina since about 10% of these patients have left main disease, 45% have triple-vessel disease and about 10% have normal coronary arteries.

2. *Patients with strongly positive electrocardiographic stress tests* — Left main disease and triple-vessel disease is often noted in patients who have 2 mm or more flat ST segment depression that occurs in the first three minutes of exercise or with a heart rate under 130 beats per minute and the ST segment depression persists for 6 minutes or longer post exercise.[5]

3. *Patients with prior myocardial infarction with any degree of angina* — Several studies have shown that patients with prior infarction and angina have multivessel disease.[6, 7] Naturally, in this category the age of the patient should be considered, for the elderly may best be treated medically.

4. *Patients with prior myocardial infarction under age 40* — Such patients should be studied for some may have normal coronary arteries and the infarct could have been due to spasm, embolism or an unknown cause.

5. *Patients with prior subendocardial infarction* — Cannon, et al[8] found that patients with nontransmural myocardial infarction have a particularly guarded prognosis, especially in the later post-hospital period. Such patients with prior nontransmural subendocardial myocardial infarction have myocardial ischemia which may contribute to electrical instability, frequent per-

sistence of angina, and an increased yearly myocardial infarction rate.

6. *Patients with sudden ventricular fibrillation* — Cobb et al[9] have shown that patients with an acute myocardial infarction who have sustained ventricular fibrillation have a 2% mortality for the first year after hospitalization. Whereas, patients without any symptoms who have sudden ventricular fibrillation and have been resuscitated have a one-year mortality of 30%. Twenty-three of 29 such resuscitated patients that were studied had significant coronary artery disease. Myerburg et al[10] studied 13 patients with sudden ventricular fibrillation and 11 of the 13 had significant coronary disease. Eight patients had surgery with no deaths in two years, whereas there was a 30% mortality in the medically treated group.

7. *Patients with positive exercise electrocardiographic stress test early after myocardial infarction* — Theroux et al[11] evaluated the prognostic value of a limited treadmill exercise test performed one day before hospital discharge (mean of 11 days) after acute myocardial infarction. One-year mortality rate was 2.1% in patients without changes in the ST segment during exercise and 27% in those with depression of the ST segment.

In the above clinical settings, surgery would be recommended depending on symptoms, ventricular function, coronary anatomy, age and general health of the patient. The majority agree today that patients with significant left main coronary artery lesions and triple-vessel disease, especially those with mild left ventricular dysfunction, should have surgery. Individuals with single and two-vessel disease have to be individualized. I would recommend surgery for a patient with a proximal left anterior descending lesion when the left anterior descending artery is a long vessel going around the apex. Kumpuris et al[12] have shown that stenosis of the left anterior descending coronary artery is a heterogeneous disease. The extent of jeopardized myocardium depends on the site of stenosis. Patients with proximal lesions (prior to the first septal branch) and a myocardial infarction had greater decrease in ejection fraction and more abnormal segmental wall dysfunction than in those who had obstruction with infarction in the mid (after first septal branch and before first diagonal branch) and distal (2 cm distal to origin of the first diagonal branch) segments of the left anterior descending coronary artery. However, ejection fraction and segmental wall dysfunction were similar with proximal and distal stenosis of the right coronary artery and inferior infarction. Surgery is offered only if anginal symptoms cannot be controlled medically for patients with only a right coronary artery lesion, circumflex or with a mid or distal left anterior descending lesion. Since thoughts are changing daily due to incoming studies, one should keep an open mind and change his criteria for surgery accordingly and not be fearful of criticism.

ANTIPLATELET AGENTS

The use of antiplatelet agents such as aspirin, dipyridamole (Persantine) or sulfinpyazone (Anturane) is still under discussion. The Amis study which compared aspirin to placebo after an acute myocardial infarction showed no differences in the three-year mortality in the two groups.[13] Eighty-five percent of these patients were enrolled more than six months after their myocardial infarction. The Anturane study[14] showed that patients taking this drug within 25 to 35 days after infarction had a significantly lower death rate than patients taking a placebo. Differences between the two groups were due mostly to a low incidence of sudden cardiac death in the second to seventh month after a myocardial infarction. However, some patients who entered into the trial and subsequently died were excluded from the analysis of the results. This and other factors have produced debate and the evidence favoring the drug is not convincing. The PARIS study[15] (our group participated in this collaborative study) was a study comparing Persantine plus aspirin, aspirin alone and placebo. Persantine and aspirin or aspirin alone showed favorable effects for coronary incidence (coronary death or definite nonfatal myocardial infarction) from 8 to 24 months. In addition, patients receiving Persantine and aspirin or aspirin alone within six months of their last myocardial infarction showed the most favorable mortality. However, only 20% of patients fell into this category and the results were not statistically significant. Because of these results the PARIS-II Study has now started in which patients will be recruited within four months of their acute myocardial infarction. At present the results from all of these studies are not conclusive enough to recommend aspirin,

Anturane or Persantine therapy routinely.

RISK FACTORS

Regardless of whether the patient has medical or surgical therapy, risk factors such as elevated cholesterol, hypertension, smoking and sedentary lifestyle should be actively pursued and managed. Since coronary heart disease deaths have declined approximately 20% during the past decade, it appears that the public is aware of the risk factors. Studies have shown that concomitant with this decline in mortality there has been a 20% decline in cholesterol, blood pressure and smoking among adults. Patients with coronary artery disease should have cholesterol, triglyceride and high density lipoprotein (HDL) levels. According to these values appropriate diets are prescribed and in certain special circumstances antilipid agents. It appears that HDL cholesterol has an inverse relationship to coronary heart disease incidence. Apparently HDL picks up cholesterol from the tissues and transports it to the liver for excretion and, in addition, it seems to block the cellular deposition of LDL cholesterol. Preliminary studies show that the HDL level is elevated in patients who are active, do not smoke and consume a moderate amount of alcoholic beverages. A study by Hennekens et al[16] showed that the consumption of alcohol should be equal to or less than 4 oz. of liquor, 40 oz. of beer or 12 oz. of wine daily. It is now clearly established that serum cholesterol is useful in predicting coronary artery disease. There also appears to be some evidence that if the cholesterol is lowered, the atherosclerotic process may not progress or even regress.[17-19]

Hypertension is a treatable condition. The recent hypertension detection and follow-up study[20] revealed that mortality and complications of hypertension can be reduced even when mild hypertension (diastolic pressures between 90-104 mm Hg) is treated.

Epidemiologic studies indicate the mortality and morbidity related to coronary heart disease increased proportionately with the amount of cigarettes smoked. A study by Auerbach[21] reveals that not only the epicardial coronary arteries are more involved with atherosclerosis in the heavy smokers but in addition there is advanced hyaline thickening in the myocardial arterioles. I advise patients with angina to stop smoking. The emotional problems and weight gain that may result should be discussed with the patient. It is best that they stop abruptly rather than tapering off, since tapering may produce a guilt complex.

Epidemiological studies also suggest that exercise aids both in preventing coronary disease and rehabilitating patients with known coronary artery disease. Certainly a program of exercise is psychologically beneficial. Patients with coronary disease should have an exercise stress test for evaluation of their functional capacity prior to a prescription for exercise. Exercise does decrease peripheral vascular resistance and blood pressure, slows the heart rate and increases the HDL level. Patients may prefer to jog, swim, ride a bicycle or just walk, depending on their condition.

Coronary artery disease does not manifest a classical Mendelian pattern of inheritance. More than one type of gene may be required to manifest the disease and environmental factors may enhance or inhibit gene expression. First degree relatives of individuals with early onset of coronary heart disease (onset in males before age 55 and in females before age 65) have on the average six times the usual risk of being affected.[22]

It also appears that type A personality may be a factor in coronary disease as has been demonstrated recently by coronary arteriography. Associated aggravating conditions as diabetes, hyperuricemia, anemia, thyrotoxicosis and arrhythmias must be recognized and appropriately treated.

SUMMARY

The medical and surgical treatment of angina has advanced considerably during the past decade. Our ten-year natural history study of unstable angina has been an impetus for setting forth criteria for such therapy, since it has been used for comparison in many surgical studies. □

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CYCLAPEN®-W (cyclacillin)

Indications
Cyclacillin has less in vitro activity than other drugs in the ampicillin class and its use should be confined to these indications: Treatment of the following infections:
RESPIRATORY TRACT
Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci
Bronchitis and pneumonia caused by *S. pneumoniae* (formerly *D. pneumoniae*)
Otitis media caused by *S. pneumoniae* (formerly *D. pneumoniae*) and *H. influenzae*
Acute exacerbation of chronic bronchitis caused by *H. influenzae**
*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*.
SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, nonpenicillinase producers.
URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)
NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing.
Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins.
Warnings Cyclacillin should only be prescribed for the indications listed herein.
Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.
Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.
Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.
PREGNANCY: Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.
NURSING MOTHERS: It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.
Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.
As with other semisynthetic penicillins, SGOT elevations have been reported.
As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.
Cyclacillin is not indicated in children under 2 months of age.
Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).
Dosage (Give in equally spaced doses)

INFECTION	ADULTS	CHILDREN*
Respiratory Tract		
Tonsillitis & Pharyngitis	250 mg q.i.d.	body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d.
Bronchitis and Pneumonia		
Mild or Moderate Infections	250 mg q.i.d.	50 mg/kg/day q.i.d.
Chronic Infections	500 mg q.i.d.	100 mg/kg/day q.i.d.
Otitis Media	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Skin & Skin Structures	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Urinary Tract	500 mg q.i.d.	100 mg/kg/day

*Dosage should not result in a dose higher than that for adults.
†depending on severity

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THE OUTLOOK FOR THE HIGH-RISK INFANT — 1981**

TERRY A. MARSHALL, M.D.*

As we enter a new decade, it is appropriate that those of us involved in the delivery of perinatal care review the changing outlook for the high-risk infant. In this century a major revolution has occurred which has dramatically increased the survival of preterm and critically ill babies. In this paper I will review mortality and morbidity statistics concerning the high-risk neonate, discuss advances in care practices which have led to the changing statistics and identify goals for the 1980's in order to improve the outcome of the high-risk pregnancy. I will present some indisputable data, but interpretations and implications remain dependent upon individual biases.

Infant mortality has decreased dramatically in this century. In the United States in 1915, infant mortality was one of ten live births, but in 1978 this has decreased to one in 73 births, a reduction of 86%. In South Carolina in 1962, infant mortality was one of 31 live births; now, fifteen years later, it is one in 54, a reduction of 44%.[1] At Richland Memorial Hospital, neonatal mortality has decreased 20% from 1973 to 1979 and in 1980, survival of infants whose birth-weight was between 750-1000 grams was 55%, those between 1001 and 2000 grams was 91% and those greater than 2000 grams was greater than 99% (Table 1). This increase in neonatal survival represents a major achievement which is a result of obstetrical and neonatal technologic advances and regionalization with the development of newborn intensive care units. However, this information should be viewed in relation to other countries in the world with population greater than two million. In 1978, for example, the United States ranked sixteenth in infant mortality. More disturbing is the fact that South Carolina has the highest infant mortality in the United States with the exception of Mississippi and the District of Columbia.[1] Within South Carolina there is great variation in infant mortality from county to county. Perinatal mortality continues to be a major problem in health care in the United States when one considers that nearly three of 100 pregnancies reaching the third trimester result in a non-live baby.

Table 1
CUMULATIVE INBORN AND OUTBORN NEONATAL SURVIVAL AT RICHLAND MEMORIAL HOSPITAL — 1980

Birth weight (gm.)	*No. of Patients*	*No. of Survivors*	*% Survival*
<500	2	0	0.0
500-750	23	2	8.7
751-1000	42	23	54.8
1001-1500	111	100	90.1
1501-2000	149	137	91.9
2001-2500	247	243	98.4
>2500	1980	1964	99.2

In trying to define the scope of the problem, mortality statistics are frequently used because they are the easiest retrievable data. Mortality statistics are simple to measure and allow fairly reliable comparisons of different regions. However, there are problems if one focuses upon mortality statistics as a sole indicator of improvement in neonatal care practices. A case could be made that the trend of decreasing mortality may coincide with an increasing number of survivors with significant morbidity, thus leaving increasing numbers of children with developmental defects preventing achievement of full potential. This could lead to an increasing financial, psychologic and social burden on the family and society. It is therefore appropriate that in

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addition to mortality statistics, perinatal health care providers measure morbidity of intensive care nursery survivors. Unfortunately, this is much more difficult to accomplish, because it requires years of follow-up in developmental clinics and a professional staff with expertise in child development. However, the recent medical literature contains reviews of morbidity statistics of newborn intensive care survivors which I will discuss in order to come to a conclusion concerning recent morbidity trends.

In Toronto, prior to 1970, 75% of all infants whose birth-weights were less than 1000 grams died and only 15% survived as normal children. In 1974 at the same hospital, mortality was decreased to 53% and of the survivors, 33% had no handicaps.[2] In Cleveland, a recent follow-up study of infants born in 1975 through 1976 demonstrated normal development in 78% of those with birth-weights less than 1000 grams, and 82% of those with birth-weights between 1000 and 1500 grams.[3]

Probably the worst prognostic outcome would be expected with severe birth asphyxia. In a study from Hammersmith Hospital in London of infants apparently stillborn or born severely asphyxiated (defined as no spontaneous respirations for 20 minutes), there was a high neonatal mortality of 52%, which would be expected. However, of the survivors, 17 of 23 (74%) were normal at follow-up three to seven years later. Severely asphyxiated neonates, especially preterm infants, appeared to tolerate asphyxia much better than older infants.[4] Morbidity in this very high-risk group was unexpectedly low considering the severe asphyxia at birth.

From the available recent morbidity data, it appears that a greater percentage of high-risk neonates are found to have normal intelligence on follow-up. However, there is still a significant number of children who die, or if survive, are found later to be neurologically impaired. Although the percentage of infants with handicaps is decreasing, the absolute number of handicapped survivors is slightly increasing due to decreasing mortality rates. In order to assess future morbidity trends and to improve our prognostic ability, a continuing emphasis upon developmental follow-up of newborn intensive care survivors will be required.

Much of the improvement in infant mortality and morbidity rates is a result of a conceptual change by the providers of health care. Recently, obstetricians and pediatricians have come closer to form the new perspective of perinatology. From this has come a closer cooperation and concern toward viewing the outcome of pregnancy as a healthy mother *and* child. As a result, a better regional organization has been developed with the availability of an established mechanism for referral of high-risk pregnancies to regional centers. The regional organization has continued to develop because it has been shown that perinatal mortality can be dramatically decreased if the high-risk infant is born in a center that has a full-time neonatologist and newborn intensive care unit. In our hospital, preterm infants have less than half the mortality if born at Richland Memorial Hospital than if they were transferred after birth. Because approximately 10% of pregnancies have a significant degree of risk and that nearly half of these pregnancies will deliver infants in need of intensive care, the increasing use of maternal transport to the regional medical center has played an important role in the improvement of infant morbidity and mortality. The regional neonatal center has also taken responsibility for outreach educational programs to other hospitals in the region. In South Carolina, this has led to the distribution of the Perinatal Continuing Education Program, which has been shown to improve perinatal knowledge and care in participating community hospitals.[5] In addition, the development of transport systems for critically ill neonates born in hospitals not equipped to deal with their complex problems has improved outcomes. With an increased awareness of the high-risk pregnancy and neonate, and appropriate referral to the regional center, obstetricians, pediatricians and neonatologists can continue as a team to increase infant survival and decrease morbidity.

Perinatal mortality and morbidity has also decreased as a result of dramatic medical advances both in obstetrical and neonatal care. In obstetrics, fetal lung maturity can now be assessed by measuring the lecithin-sphingomyelin ratio of amniotic fluid. Other important antepartum advances include ultrasound, urinary estriols, oxytocin challenge tests, improved control of diabetic pregnancies, the use of Betamethasone to the mother to induce fetal lung surfactant production, electronic fetal heart rate monitoring and fetal scalp pH sampling. Neonatology has

made dramatic advances in caring for the critically ill neonate — just a few are the development of continuous distending airway pressure, intermittent positive pressure ventilation, hyperalimentation, transcutaneous oxygen monitoring, improved cardio-respiratory monitoring techniques, knowledge of prostaglandin pharmacology and better nutrition with improved infant formulas and specialized feeding techniques. In the future, improved methods for monitoring and treating the mother and neonate will continue to improve the outcome of the high-risk pregnancy.

Those of us involved in delivering perinatal care must continue to evaluate our actions in the day-to-day management of patients. We have learned that errors have been made in the past; for example, in the 1960's when excessive oxygen therapy was used to treat respiratory distress syndrome until it was found to be associated with retrolental fibroplasia. Drug therapy has also changed; for example, Gantrisin is no longer used to treat sepsis due to its albumin-binding properties which may increase the risk of kernicterus. Nor are infants routinely bathed with hexachlorophene due to the risk of neurologic injury. We should not incorporate new techniques in the care of neonates until carefully controlled studies have shown them to be safe and effective. In addition, we should constantly be evaluating present therapies to determine their benefits and risks.

The question arises as to what can be done to further decrease neonatal mortality and morbidity. Neonatal mortality rates have been recently found to be directly related to the very low-birth-weight rate.[6] Probably the main reason that South Carolina is 49th in infant mortality in the United States is that it is 49th in the number of babies with birth-weights less than 2000 grams.[7] It is appropriate that the factors which have been related to the birth of low-birth-weight infants be identified so that in the future the number of preterm deliveries can be reduced and, thus, decrease the number of infants at risk.

The likelihood of a mother delivering a low-birth-weight infant has been found to be increased if the pregnancy is associated with one of the following: lack of prenatal care, black race,[7] teenage pregnancy and low socio-economic class.[8]

The number one maternal characteristic identified with fetal and neonatal mortality in South Carolina was lack of prenatal care during pregnancy.[7] Unfortunately, there is a tendency for individuals with already high-risk pregnancies, such as teenagers, not to have adequate medical care during the pregnancy. It is not clear to what degree the lack of prenatal care is responsible for higher infant mortality of individuals of low socio-economic class, who in addition may have inadequate nutrition, education, housing, etc.

In South Carolina in 1979, the number of low-birth-weight, non-white live births was double that of white live births. As a result, non-white neonatal mortality was nearly double that of white neonatal mortality.[7] It is not clear why blacks have an increased number of low-birth weight infants. This may be related to some of the other factors listed above and needs to be explored more extensively in the future.

A basic problem appears to be a lack of utilization of medical care practices to the highest risk population — blacks, teenagers and individuals of low socio-economic class. These factors, which lead to an increased low-birth-weight rate, are probably the major reasons why a wealthy country like the United States ranks poorly in infant mortality. In order to reduce the low-birth-weight rate, a high priority in the future should be the extension and distribution of basic primary care services to all individuals before conception, prenatally, during delivery and postnatally. Geographic and financial barriers need to be overcome with systems for consultation and referral increasingly utilized for all high-risk pregnancies. Preventive medicine, with a greater emphasis upon education, family planning, birth control and the dispersal of basic medical services to all members of society could make a substantial contribution toward reducing the number of preterm births and thus saving lives.

In conclusion, improved morbidity and mortality statistics justify an aggressive approach toward treating the sick newborn infant. Immediate referral of low-birth-weight infants, either in utero or after birth, to the regional medical center is essential to guarantee optimal medical care. Continued support of high-risk pregnancy programs and newborn intensive care units is necessary to ensure maximal medical support to the critically ill neonate. If infant survival is to be increased in years to come, then the very low-birth-weight rate must be reduced by

improving prenatal care to all individuals. A continued cooperation and concern among all members of the perinatal health care team will make the outlook for the high-risk infant better than ever before. □

ACKNOWLEDGEMENT
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SCMA NEWSLETTER

August, 1981

- - NEWS FROM COUNCIL MEETING - JULY 16, 1981 - -

PEEPLES SWORN IN AS SCMA TREASURER

At the first meeting of the newly-reorganized Council on July 16, *Harrison L. Peeples, M. D.,* was sworn in as SCMA Treasurer.

The ceremony had been delayed because Dr. Peeples was not present at the reorganization meeting of Council following adjournment of the SCMA House of Delegates in May. At that meeting, Dr. Peeples was nominated and elected by acclamation.

Dr. Peeples will serve until the 1982 meeting of the House of Delegates, at which time he will be eligible for re-election.

COMMISSIONERS APPOINTED

Council has confirmed the appointment by the President of the following Commissioners: *John W. Simmons, M. D., as the Commissioner on Public Health; U. Hoyt Bodie, M. D., as Commissioner on Public Affairs and Professional Relations; Kenneth N. Owens, M. D., as Commissioner on Scientific Affairs and Medical Education; and E. Mims Mobley, Jr., M. D., as Commissioner on Socioeconomic Activities.*

COUNCIL SETS SCMA OBJECTIVES FOR THE YEAR

Council has set the following goals and objectives for the SCMA for the remainder of 1981 through the May Annual Meeting in 1982:

1. *Increase membership to 2,300 full dues-paying members.*
   - (a) *Development of member benefit programs.*
   - (b) *Recruitment of target groups.*
   - (c) *2,000 dues-paying AMA members.*
2. *Improvement of the SCMA image, both internally and externally.*
3. *Improvement of the medical profession's public image.*
4. *Grass roots legislative committee in every county society.*
5. *Continue search for permanent professional liability market.*
6. *Continued emphasis on effective liaison with state agencies.*
7. *No dues increase for next year.*
8. *Closer working relationships with subsidiaries and affiliated organizations.*
9. *SCMA staff development.*
10. *Activate SCMA committees' responsiveness to the Association's needs.*

Council urges all county societies, committees and commissions of the SCMA to review these objectives so that we can all understand the directions in which

the SCMA is moving. In March of 1982, Council will adopt recommendations for goals for the 82-83 Association year, and these goals will be presented to the 1982 House of Delegates.

AD HOC COMMITTEES CREATED

At the SCMA Annual Meeting, the continuing need for a permanent professional liability market in South Carolina was again stressed. Council has established this as one of the SCMA objectives for the year, and has created an Ad Hoc Committee to pursue a solution to this problem. The Committee will be Chaired by *Donald G. Kilgore, Jr., M. D.*

The funding of most federally supported health programs in the form of the block grant approach has caused Council to establish an Ad Hoc Committee to study the situation as events develop in the federal government, with the hope of offering some input regarding the distribution of such funds in South Carolina. In addition, SCMA concerns over budgetary restraints in the Medicaid program have resulted in the formation of an Ad Hoc Committee to study nursing home reimbursement. This committee will address only the economic and financial aspects of such reimbursements, and not the social alternatives to nursing home placement. Because of the nature of the problems these committees will address, and some possible overlap, both Ad Hoc Committees will be Chaired by immediate Past President *Halsted M. Stone, M. D.*

COUNCIL PLANS FALL RETREAT

In an effort to make a concentrated study and anlysis of the problems facing the Association, Council plans a week-end retreat September 25-27, 1981. A special Seminar will be held on *Professional Liability,* and Council members will then divide into workshops to consider: *(1) Relationships with Subsidiaries; (2) Study of Established Goals and Where SCMA Stands; (3) Liaison with Outside Organizations; (4) The New AMA/State Relationships Regarding Membership; and (5) Legislative Approaches and Priorities".* The Retreat will be conducted under the leadership of Council Chairman *Randolph D. Smoak, Jr., M. D.* Watch for a complete report on these pages in a future issue of *The Journal*.

DHEC MATTERS

At the July 16 Council Meeting, Council expressed its concerns over matters facing the Board of the Department of Health and Environmental Control. This Board will be discussing two topics of interest to South Carolina physicians. The first, *triplicate prescriptions,* has been opposed by SCMA on the basis of cost benefit ratios. The second topic is *legislation to allow DHEC to establish minimal standards for X-ray equipment operators.* This has also been opposed by the SCMA on the basis of lack of established need and increased costs to the patient and taxpayer for establishing the administrative process. Council feels that minimal standards would be useful, however, objects to this being enforced through legislative authority.

DHEC's Board, on July 23, reviewed both matters and delayed its decision on minimal standards for X-ray operators pending additional staff investigation. The topic of triplicate prescriptions was also delayed for receipt and consideration of a Gubernatorial Task Force sub-committee report, due in September, 1981.

CONTINUED PROBLEMS IN THE MEDICAID PROGRAM

During recent discussions between SCMA leadership and officials in the S. C. Department of Social Services, the SCMA was asked to assist DSS in its efforts towards cost containment because of its mandatory budget restraints. *Criteria for payment in emergency rooms, including diagnoses, have been referred to the SCMA Medical Services Committee for recommendations. Other problems with which SCMA will assist cover elective surgery guidelines, and alternatives to limiting outpatient visits and inpatient days.* These problems have been referred to appropriate SCMA Committees. Program limitations have been implemented, however, and will be in effect at least until October, 1981, when federal funding is finalized.

COMMITTEE NEWS

Council heard reports from several committees at its July 16 meeting, as follows:

PUBLIC RELATIONS COMMITTEE

Approval has been granted for the SCMA Public Relations Committee to arrange for the airing of health related public service announcements over South Carolina television stations. These announcements, produced by the American Medical Association, will be sponsored by and bear the logo of the SCMA. Watch for these spots over your local stations.

BLUE CROSS AND BLUE SHIELD ADMINISTRATIVE COMMITTEE

In discussions with Blue Cross and Blue Shield, this committee was asked to assist in the development of a joint program to encourage maximizing surgery in the physicians' offices, in contrast to surgery performed in the more expensive hospital setting, provided, of course, that quality of care is not affected. The proposal, as defined by Mr. Joseph Sullivan, President of Blue Cross and Blue Shield, would provide for several varying levels of reimbursement for office surgery, depending on the procedure performed and surgical supplies utilized. *Council agreed that this proposal should be referred to the SCMA Insurance Peer Review Committee for development.*

COMMITTEE ON ALCOHOL, DRUG ABUSE AND DISABLED PHYSICIANS

Council has authorized the SCMA Committee on Alcohol, Drug Abuse and Disabled Physicians as liaison with the S. C. Commission on Alcohol and Drug Abuse. The SCMA Committee announces the organization and implementation of a voluntary program for the rehabilitation of substance abusing physicians. *No physician voluntarily entering rehabilitation through the committee's assistance will be reported to the State Board. Should you either know of an impaired colleague and wish to help him or her, or if you wish additional information, call the SCMA Headquarters office.*

--- *Comments from readers are solicited with regard to this method of communicating Association news to the membership.* ---

CAPSULES

A. Richard Johnston, M. D., has been recognized and honored by the State Board of Medical Examiners for his years of service on the Board. Dr. Johnston served a total of 36 years, two years as President of the Board. --- *W. Clough Wallace, M. D.,* of Greenville, has been awarded Honorary Membership Status by Council. --- Council has endorsed enthusiastically the candidacy of *Robert H. Taylor, M. D.,* Spartanburg, for a seat on the Board of Directors of the American Academy of Family Practice.

OTHER NEWS

90-DAY PRESCRIPTIONS

The DSS Board recently authorized a ninety (90) day drug supply limit for prescriptions for Medicaid patients when medically indicated for maintenance drugs. Budget reductions necessitated restricting their sponsorship to four legend drugs per calendar month and elimination of all non-legend items with the exception of Insulin, Insulin syringes and family planning supplies. The 90-day prescription is designed to assist those patients who routinely require more than four prescriptions. Medicaid administrators solicit the support of physicians in the evaluation of prescription amounts in order to make this program beneficial to the Medicaid recipients as well as a cost effective method of service delivery. Already reports are being received that physicians are writing 90-day prescriptions for non-maintenance drugs. The objective of the new regulation and cost containment with the least possible interference with patient care will be lost if physicians apply the 90-day limit indiscriminately to all prescriptions.

S. C. COMMISSION ON ALCOHOL & DRUG ABUSE

A recent trend forecast by the Drug Abuse Warning Network is the use of Talwin and Pyrobenzamine, "T's and Blue's",as a substitute for Heroin. This combination is presently being used in New Orleans, Chicago and Detroit. It can lead to bizarre and violent PCP-like reactions, particularly in adolescents. For further information on this and other trends, contact *Mark Brannon, SCCADA, 3700 Forest Drive, Columbia 29204. (803) 758-3866.*

POSITION OPEN - DSS MEDICAID PROGRAM INTEGRITY

The Director of the Medicaid Program for DSS is asking for assistance in locating a physician for the position of Medical Advisory to the Division of Program Integrity. This position is heavily involved in Medicaid utilization review, development of medical policy and other duties which impact on practicing physicians' participation in the program. It calls for a full-time state employee at grade 50, with a starting salary in the lower or mid-40's. A primary care physician with some administrative background is suggested. *Contact SCMA Headquarters if you have interest in such a position or know of someone who would be interested.*

AMA NEWS

At the June meetings of the AMA House of Delegates, A DIRECT AMA MEMBERSHIP OPTION WAS ESTABLISHED, which will permit S. C. physicians to join the national organization direct, deleting the requirement that they must first be members of their state association. A summary of AMA actions at the June meetings, *submitted by C. Tucker Weston, M. D.,* is included in this issue of *The Journal*.

THE MICROSCOPICALLY CONTROLLED EXCISION OF SKIN CANCER

PEARON G. LANG, M.D.*

In the surgical treatment of skin cancer four major goals should be kept in mind: (1) Removal of all malignant tissue, (2) Maximum preservation of normal tissue, (3) Preservation of function, and (4) Optimal cosmesis.

More than forty years ago Frederic E. Mohs, Professor of Surgery at the University of Wisconsin, developed a technique that allows these goals to be achieved. His approach has come to be known by a number of names including Mohs' chemosurgery, Mohs' technique as well as "the microscopically controlled excision of skin cancer." The procedure has become readily available only recently and a number of medical centers, including the Medical University of South Carolina, can now offer this service.

HISTORY

While a medical student, Mohs serendipitously discovered that the injection of zinc chloride solution into the cancerous or normal tissues of tumor-bearing animals, fixed the tissue in situ and preserved its microscopic features. From this evolved the idea of applying zinc chloride paste to an animal tumor and excising a thin, horizontal layer of fixed tissue. After division into smaller specimens, these were color-coded with dyes, a map of the wound drawn, and frozen section cut from the undersurface of the specimens. The sections were subsequently examined microscopically and specimens still containing tumor noted. More zinc chloride fixative was applied to those areas still positive for cancer and another layer of fixed tissue was removed, processed and examined. This process was repeated until a cancer free plane was reached. Mohs found a decreased incidence of metastases in animals whose tumors were removed in this manner.[1] Since the zinc chloride fixative was non-toxic he began to utilize the procedure in the management of human skin cancers where he found the method equally safe and effective. In the early years of its evolution the fixative was always used and the technique became known as "chemosurgery". Today, when the paste is used, the procedure is referred to as the "fixed-tissue technique".

The "fixed-tissue technique", however, was associated with some problems. Since the paste remained overnight, only one excision per day was usually carried out. Fixation also produced considerable pain. Finally, in removing tumors near the eyes, irritation occurred and fixation was poor due to massive edema. Because of this, Mohs began to omit the paste when removing small tumors near the eyes. His cure rate equalled those with the fixative so the paste was omitted when treating small tumors elsewhere. Mohs' experience, and later studies by Tromovitch have led to the omission of the fixative in most cases. This approach became known as the "fresh tissue technique".[2] This obviates problems encountered with the fixative and allows a cancer free plane to be reached in a single day. It also permits immediate repair or reconstruction. Since the fixative is usually omitted, the Mohs' technique is often referred to as the "microscopically controlled excision of skin cancer" rather than "chemosurgery".

FIXED TISSUE TECHNIQUE

Figure 1 illustrates the general features of the microscopically controlled excision of skin cancer.

As much tumor as possible is removed before application of the zinc chloride fixative. However, with large, bulky, vascular lesions this is not always possible and the fixative is applied to the gross tumor. Dichloracetic acid is sometimes applied to normal appearing skin surrounding the tumor to insure penetration of the fixative.

The paste is usually left in place overnight under an occlusive dressing and removed before excision of a horizontal layer of tissue. The fixed tissue has a yellow-white appearance and the consistency of cardboard. All of the vessels are thrombosed, creating a bloodless field and nerves are destroyed eliminating the need for

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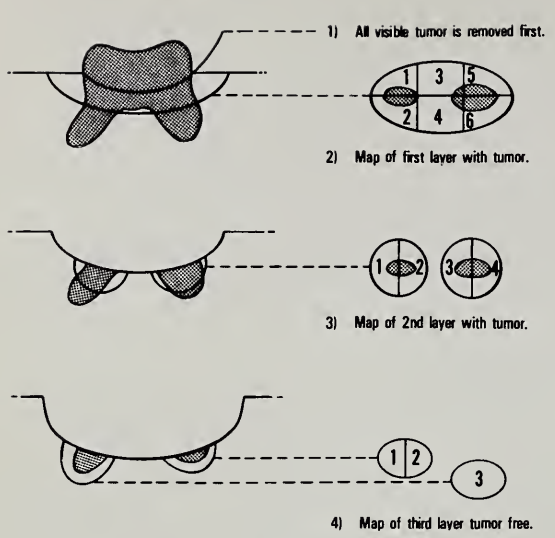

FIGURE 1 — Diagram illustrating the chemosurgical technique. Three stages were required to render the patient tumor free.

local anesthesia (as with the "fresh-tissue technique"). As each specimen is excised, the source of the specimen is marked with a dye on the wound floor. In contrast, with the "fresh-tissue technique" the markings are placed on the adjacent intact skin. Thus, the "fixed-tissue technique" allows more accurate mapping of the wounds.

The major disadvantages of the "fixed-tissue technique" have already been outlined but one additional problem exists. Three to four days after removal of the final tissue layer, residual, fixed tissue sloughs revealing healthy granulation tissue. In general, this is desirous but if a cancer of the nose or ear has been treated, a perforating defect can occur.

Although the "fresh-tissue technique" has largely supplanted the "fixed" method there are times when the use of the fixative is indicated. These indications include: (1) large, bulky, vascular tumors, (2) bony invasion, (3) extension of the tumor into a cavity where adjacent skin markings are not adequate for mapping purposes e.g. the external auditory canal, and (4) occurrence of the tumor in an area where hemostasis is difficult e.g. the penis.

"FRESH-TISSUE TECHNIQUE"

The principles involved in the "fresh-tissue technique" are identical to those of the fixed method.[3] Because the tissue is unfixed a local anesthetic is required (most commonly 1% lidocaine with epinephrine). Bleeding is controlled during surgery with electrocautery and postoperatively with oxidized cellulose and pressure dressings.

The fresh tissue method has several advantages including decreased pain, maximum preservation of normal tissue, and speed. Moreover, since there is no residual fixed tissue to slough, immediate repair can be considered.

PROCESSING OF THE SPECIMENS

With the Mohs' technique, complete horizontal sections are taken from the undersurface of each specimen. This allows all edges of the specimen including the deep margins to be checked simultaneously.[4] In contrast, Figure 2 demonstrates how a routine excisional specimen might be processed. Since it is impractical to section the entire specimen, representative sections must be taken. In the figure, the gaps represent areas from which representative sections were taken. The figure illustrates how a microscopic extension of the neoplasm can be missed. This may explain a recurrence of a cancer although margins were reported to be free of tumor.

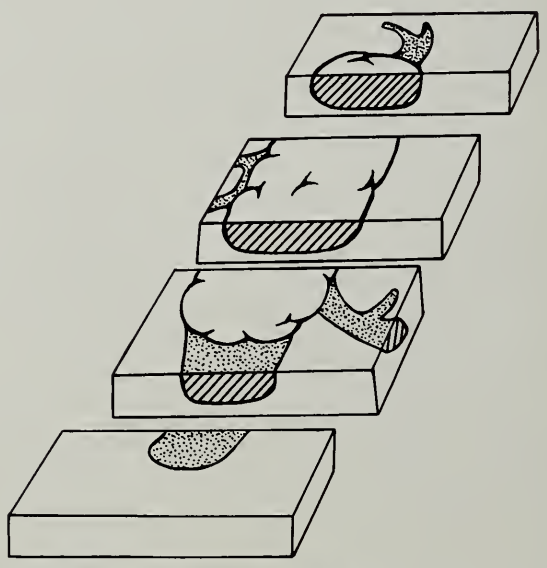

FIGURE 2 — Illustration showing how routine vertical sectioning of an excised tumor may not demonstrate a microscopic extension off the main tumor mass. The spaces represent areas from where the microscopic sections were taken.

TYPE OF TUMORS AMENABLE TO CHEMOSURGERY

Table I lists those cutaneous tumors most often treated by the microscopically controlled excision technique. This list is not inclusive since malignant melanoma, lentigo maligna, dermatofibrosarcoma protuberans and breast cancer of the chest wall have also been successfully treated. It has also been employed in the management of parotid tumors, and carcinoma of the oral cavity, sinuses, larynx, and ano-genital area.[5] Obviously, for a tumor to be amenable to chemosurgery, it must be accessible, and this limits its usefulness for many neoplasms.

Despite the variety of tumors for which the Mohs' technique can be employed, the most common tumor treated is the basal cell carcinomas. The next most frequent tumor is the squamous cell carcinoma arising in sun-exposed skin.

Table I
TYPES OF CUTANEOUS MALIGNANCIES AMENABLE TO CHEMOSURGERY

1. Basal cell carcinoma
2. Squamous cell carcinoma
3. Erythroplasia of Queyrat
4. Verrucous carcinoma
5. Bowen's disease
6. Exramammary Paget's disease

INDICATIONS FOR CHEMOSURGERY

Table II lists the indications for the microscopically controlled excision of skin cancer.

Recurrent cancers and the morpheiform basal cell carcinoma may contain inapparent extensions. Thus, routine surgical excision may be incomplete or require sacrifice of significant amounts of normal tissue in order to insure an adequate margin.

Tumors occurring in embryonic fusion planes (e.g. nasolabial fold) often penetrate deeply and more extensively than can be clinically appreciated. This probably accounts for the high recurrence rate of tumors occurring in these areas. It is less clear why tumors of the ala nasae and scalp have an increased incidence of recurrence.

Table II
INDICATIONS FOR MICROSCOPICALLY CONTROLLED EXCISION OF SKIN CANCER (MOHS' CHEMOSURGERY)

1. Recurrent basal or squamous cell carcinoma
2. Morphea type of basal cell carcinoma
3. Primary basal or squamous cell carcinoma with ill-defined margins
4. Tumor in embryonic fusion planes e.g. nasolabial fold, retroauricular sulcus
5. Tumors in area of high recurrence e.g. nasolabial fold, pinna, nose, inner canthus, scalp and retroauricular sulcus
6. Large or deeply invasive basal or squamous cell carcinoma
7. Tumors in areas where maximal preservation of tissue and highest chance of cure is crucial e.g. eyelids, inner canthus

CURE RATES WITH CHEMOSURGERY

A patient with a primary, well-defined small basal cell carcinoma can be readily treated with routine methods with a cure rate approaching 95%.[6, 7, 8] These include curettage and electrofulguration, excision, irradiation and cryosurgery. However, with larger tumors the cure rate is less, and for recurrent basal cell carcinomas, the cure rate employing routine treatment can be as low as 50%.[9]

As of 1978, Mohs had treated 7,574 basal cell carcinomas with the "fixed tissue technique" with a five year cure rate of 99.3%. If there had been no previous treatment the cure rate was 99.9%, whereas with recurrent tumors the cure was 96.8%. His cure rate for primary and recurrent basal cell carcinoma using the "fresh tissue technique" was 99.8%.[10]

With the fixed method the five year cure rate for 2,249 squamous cell cancers was 94%. The cure rate for squamous cell carcinoma with the "fresh tissue technique" has been 98.8%. This slightly higer cure rate probably reflects the treatment of the more difficult tumors by the fixed method.[10]

ADVANTAGES AND DISADVANTAGES OF CHEMOSURGERY

In summary, the advantages and disadvantages of the chemosurgical technique are as follows:

The advantages are: (1) maximal chance of cure with maximal preservation of normal tissue, (2) extension of operability to the "poor risk" patient since it is done under local anesthesia, and (3) performance on an out-patient basis.

The disadvantages are: (1) the length and tediousness of the procedure at times, (2) the need for special equipment and personnel, and (3) the necessity for special training to perform the surgery and to interpret the microscopic sections.

MANAGEMENT OF THE CHEMOSURGICAL WOUND

Many factors must be considered in the management of the resulting defect. Omission of the zinc chloride fixative may allow immediate repair or reconstruction. With recurrent tumors, especially if there have been multiple surgical attempts at removal, the possibility of outlying disconnected foci must be considered since covering of residual cancer or transposing tissue with microscopic foci of cancer into the surgical defect can be disastrous. Thus, if there is any question regarding the completeness of removal, the defect should be allowed to heal by secondary intention or covered with a thin split thickness graft. Under these circumstances, definitive reconstruction should be delayed for at least a year. Functional impairment, however, requires a more immediate repair.

Healing by secondary intention does not always give an inferior cosmetic result. Indeed, the results may be as good or superior to that achieved by intricate reconstructive surgery. Partial closures may also provide acceptable cosmetic and functional results.

SUMMARY

The technique described here offers the greatest chance of cure and also allows maximal preservation of normal tissue. Although this technique should not replace other more readily available and simpler types of treatment in the management of small, well defined basal and squamous cell carcinomas, it has distinct advantages in the management of recurrent skin cancers and high risk primary basal and squamous cell carcinomas. □

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NEEDED: MORE PRIVATE PHYSICIAN INVOLVEMENT TO HELP REDUCE UNWANTED TEENAGE CONCEPTIONS*

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The epidemic of unwanted teenage pregnancies and abortions presents serious health and social problems. Most health and health-related professional groups have prepared position papers and protocols addressing the issues involved. Typical of such action, the American Academy of Pediatrics' "Statement on Teenage Preganancy"[1] reflects concern about adolescent childbearing in terms of: late entry into the prenatal care system, preeclampsia, low-birth-weight infants, increased risks for infant abnormalities, and subsequent effects on child abuse-neglect, interrupted schooling for mother, and desertion by father.

The available evidence indicates that private physicians have not been overwhelmingly involved in teenage family planning care. Silver[2] interviewed private physicians in three different geographic locations and found support (fewer than two-thirds) for family planning as a "routine procedure"; however, only two-fifths would initiate discussions without parental consent and 14% would refuse service or refer the unmarried patient. Los Angeles private physicians responded more positively in that 54% would "usually" offer birth control advice to a sexually active female minor even if she did not specifically request it, and 80% would provide birth control services to minors with parental consent. Obgyns were more likely to initiate discussion and considered family planning as "standard medical practice" more so than general practitioners, internists, and urologists.[3] In 1977, the DHEW Division of Health Resources Utilization Statistics conducted the National Ambulatory Medical Care Survey (NAMCS) on the extent of family planning services provided in physicians' offices. NAMCS data indicated that women aged 15-44 made 9.7 million visits to office-based physicians in 1977 for family planning services. Females aged 15-19 made 116 family planning visits per 1,000 women in that age group compared to 288 per 1,000 aged 20-34 years. Men aged 20-54 made about 791,000 visits to office-based physicians for family planning in 1977 for a rate of 17 visits per 1,000 men in this age group.[4]

Substantial numbers of sexually active teenagers have not received the needed family planning services available via their physician visits. Teenage patients must initiate entry to the physician provider and must come to grips with their unprotected sexual behaviors. Unfortunately one half of the contributors to this epidemic (males) seldom come into contact with physicians for sexuality-contraception care and advice. Clearly, physician-teen contacts for contraceptive care must be increased.

Premarital sexual activity has continued to increase in the past decade and there are few prognosticators who believe this upward trend will subside. In a 1978 sample of South Carolina never-married college students reported by Faulkenberry and Vincent[5] (same data set for this article), 80% of the males and 65% of the females reported they had experienced sexual intercourse, with a mean age at first intercourse of 16.73 years. In 1976, Jaffe and Dryfoos[6] reported that 42% of 15-19 year-old females and 10-15% of the 13-14 year-old females were sexually active. Among males, 32% of the 14 year-olds reported having intercourse. Extensive longitudinal research has been completed at Johns Hopkins University. National probability samples of unmarried women aged 15-19 in 1971 and 1976, living in households in the United States, have provided excellent sources of information. Analysis of the data by Zelnik *et al.*[7] showed the

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following estimated percent of sexually active unmarried women according to age: 15 or younger — 15%, 16 — 20%, 17 — 34%, 18 — 48%, and 19 — 63%. The 30% increase in the level of premarital sexual activity from 1971 clearly represents that more young women are today engaging in intercourse than in years past.

Frequency of premarital sexual intercourse obviously results in subsequent negative side effects for some people. About one-half of all initial teenage pregnancies occur in the first six months of sexual activity. Those women who have first intercourse at age 15 or younger are nearly two times more likely to get pregnant in the first six months than those who wait to have sexual intercourse at 18-19 years.[8] The older the age at first intercourse, the more likely that contraception is used; and among those who use contraception at first intercourse, the older the starting age, the more likely the use of a medical method. Those who consistently use a medical method are only one-third as likely to become pregnant as those who use a nonmedical method and one-tenth as likely to become pregnant as those who use no method.[9]

The issue of medical (pill, IUD, diaphragm) vs. nonmedical contraceptive use appears to be an important factor because of the effectiveness of medical methods. Tschetter[10] reported that most physicians were prone to recommend and provide medical contraception. The above statement does *not* suggest public health clinics or Planned Parenthood clinics do not also prescribe medical means of contraception since they obviously do in accordance with their medical protocol. Source of physician concern, however, should be directed toward the reality that teenage women, as opposed to their married counterparts, do not seek out their private physician with the frequency one might expect. Zelnik and Kantner[11] reported that 53% of the 15-17-year-olds and 55% of the 18-19-year-olds source of oral contraception was the physician with a greater reliance on the physician by the white teenager than the black teenager. A significant number (white — 44%; black — 58%) receive their oral contraceptives from clinic settings. Teenage enrollment in clinics rose from 453,000 in 1971 to 1.1 million in 1975.[12]

Private physicians must address the thought-provoking questions raised by the above statistics. Whereas teens see private physicians for varied medical problems, why do almost one half choose not to interface with their doctor for fertility management concerns? What modifications in attitudes and office practices are being implemented to promote more contact with these sexually active teens? Recognizing that physicians have been leaders in social changes to improve the quality of life, the following South Carolina data could be used to support the need for more private physician care for our sexually active youthful population. The data reported hereafter were from female respondents because of the assumption that females tend to assume the bulk of contraceptive responsibility and have greater contact with physician providers. Obviously we should continue efforts to recruit males into family planning programs and encourage male co-sharing of contraceptive responsibilities.

METHODS AND SAMPLE

Data in this report were generated from a convenience sample survey of 530 students in eight South Carolina colleges and universities during the spring of 1978. The respondents were students enrolled in personal health courses taught at each of the institutions. Respondents participated voluntarily (one refusal), anonymously, and without previous awareness that the survey was to be administered. Survey administrators adhered to strict written protocol taking special precautions to insure respondent anonymity. The instrument, a modified form of a questionnaire used by Vincent,[13] contained 57 items relative to demographic characteristics; self-report indicators of coital behaviors and contraceptive utilization; attitudinal indicators relative to coital decisions, partner involvement, and contraceptive use; and general knowledge questions relative to fertility, contraception, and sexually transmitted diseases. Questionnaire items reported had a test-retest reliability of 84% or greater.

Data in this report were from a sub-sample of the total survey respondents. This sub-sample includes all never-married sexually active females (N = 161). These females can be described as residents of South Carolina (85.3%), Protestant (Protestant — 59.4%, Catholic — 6.3%, Other — 31.3%), from rural or small cities (< 25,000 — 64.2%, 25,000-100,000 — 22.2%) and in their first three years of college (Freshman — 24.8%, Sophomore — 34.8%, Junior —

22.4%). Race was not known due to the desire to insure anonymity; however, it was a predominantly white population.

RESULTS AND DISCUSSION

We studied a sample of never-married, sexually active female students in attendance at eight South Carolina colleges and universities during Spring, 1978 (Table 1). The high initiation figures for 17-year-olds (25%) and 18-year-olds (27%) plus the fact that 36% of the sample reported no partners in high school may correspond to Zelnik and Kantner's report that "first intercourse among unmarried teenage women is seasonal — summer being the time, apparently, when temptation and opportunity peak together.[11] Graduation from high school (maturity and independence) may precipitate increased interest in sexual experimentation during the post-graduation summer period.

The episodic and impersonal nature of early premarital sexual intercourse has many implications for contraceptive use. The reader should note that 14% had intercourse only once, and 21% had intercourse only 2-5 times, with their first partner. Most people would agree that such data indicate very little commitment between partners. Greater commitment within a relationship has been associated with more effective pregnancy prevention.[11(p71), 14] It is indeed a difficult societal problem to deal with since the "least involved" and the "one-night stands" create increased risks for unwanted conceptions. These females continued to be sexually active; however, the phenomenon of "secondary virginity" may be an explanation for the 22% who claimed to have not had intercourse during the past year.

Perhaps it is unrealistic to consider, however, the reported 7% receiving contraceptive information from medical doctor or nurse (Table 2) seems to be an intolerably low percentage. High school instruction hopefully provided accurate information for 18%, some few parents discussed contraception (11%), while the remaining sources (media — 26%, friends — 15%) may or may not have been credible. Almost one-fifth of these females (18%) honestly stated their ignorance of contraception. As a side issue, males in the total study were even more unaware (20%) while 37% received the "wisdom" of their friends relative to contraception. No sexually experienced males in the total survey sample reported they had received information from a physician, a public health clinic, or Planned Parenthood clinic.

Table 1
PERCENTAGE DISTRIBUTION OF RESPONSES BY NEVER-MARRIED SEXUALLY EXPERIENCED SOUTH CAROLINA FEMALE COLLEGE STUDENTS TO STATEMENTS CONCERNING PAST AND CURRENT COITAL BEHAVIORS (N = 161)

Questionnaire Item	*Percent**
Age at which you first engaged in sexual intercourse? (Q. 11)	
Age	
14 or younger	6
15	9
16	19
17	25
18	27
19	9
20 or older	5
How many times did you have sexual intercourse with this first partner? (Q. 12)	
Frequency	
1	14
2-5	21
6-10	17
11-25	12
25 or more	35
How many partners did you engage in sexual intercourse with before graduating from high school? (Q. 20)	
Number of Partners	
None	36
1	42
2-5	22
6-10	0
10 or more	1
In reference to my most recent partner, I am/was participating in sexual intercourse: (Q. 25)	
Frequency	
Once or more/week	40
1-2 times/month	37
5-10 times/year	10
1-2 times/year	7
Not at all	6
During the last year, with how many different sexual partners have you engaged in sexual intercourse? (Q. 24)	
Number of Partners	
None	22
1	44
2	22
3-4	13
5-7	0
8-10	0
10 or more	0

* Total < or > 100% because of rounding error.

Table 2
PERCENTAGE DISTRIBUTION OF RESPONSES BY NEVER-MARRIED SEXUALLY EXPERIENCED SOUTH CAROLINA FEMALE COLLEGE STUDENTS TO STATEMENTS CONCERNING CONTRACEPTIVE PATTERNS WITH FIRST COITAL EXPERIENCE (N = 161)

Questionnaire Item	*Percent**
Before my first participation in sexual intercourse I received my contraceptive information (information only) primarily from: (Q. 14)	
Source of Information	
Medical doctor or nurse	7
Planned Parenthood or public health clinic	4
High school instruction and/or counselor	18
Parent or guardian	11
Books, TV, radio (mass media)	26
Friend's advice	15
None of the above — I knew very little	18
During my first participation in sexual intercourse my partner or I used the following means of contraception: (Q. 15)	
Method	
Oral contraceptive — "pill"	10
IUD	0
Condom	33
Foams, jellies, or creams	1
Withdrawal or rhythm	23
Did not use any contraception	33
Before my first participation in sexual intercourse I discussed contraception with my partner: (Q. 17)	
Response	
Very seriously and carefully planned	25
Casually but was not careful in planning	29
Not at all	46

* Total < or > 100% because of rounding error.

Only 10% of these women reported using the pill with first sexual intercourse. Condoms (33%), withdrawal (23%), or no method (33%) were the dominant responses of these females (no subjects reported having an IUD or diaphragm). The fact that over one half basically used no contraception at first intercourse makes unwanted conceptions an obvious frequent result. Reasons for not using contraception were not included in the table, but primary reasons given by the women who did not use were: "did not know enough about contraceptives and pregnancy to realize their importance" — 19%, "unplanned or spur of the moment decision to engage in sexual intercourse" — 62%, and "expected my partner to provide contraceptive means" — 10%. Zelnik and Kantner[15] systematically examined the reasons for non-use of contraceptives by 700 adolescents at their last coital experience. Reasons given were, "they had not expected to have intercourse" and a lesser percentage responded with the idea that "circumstances had intervened." The bases for such reasoning are perplexing and can be interpreted in many ways. Of those females who had intercourse prior to high school graduation, the following reports were made relative to estimations of using contraception (while in high school) with their partners: "always" — 25%, "75-95% of the time" — 35%, "50-75% of the time" — 12%, "25-50% of the time" — 17%, "never" — 11%. This ineffective use pattern likely coincides with their absence of discussion about contraceptives with their first partner. It is unpleasantly ironic to realize that these females could likely talk freely about school, cars, and entertainment, but find it impossible to discuss (and plan) an event which potentially could produce a human being and bring devastating physical, social, emotional, and economic consequences.

Table 3 illustrates some contraceptive patterns of the respondents with their most recent sexual partner and provides an interesting comparison with the responses relative to their first partner (Table 2). Contraceptive information from more reliable sources had increased rather markedly with medical doctor or nurse (33%), college health service (9%), and Planned Parenthood and public health clinics (15%) providing primary sources.

In terms of contraceptive use one finds increased reliance upon medical methods with 49% using the pill and 4% using the IUD in their most recent encounter. The move toward the pill seemed to be a strong characteristic of these older students since only 10% used the pill at first intercourse. Condoms (20%) remain a popular choice, however, with less frequency than at first intercourse. One should note, however, that 20% of these college females were playing "sexual roulette" with their most recent sexual experience by the employment of no method, or rhythm.

The extensive research of Zelnik and Kantner illustrates other crucial data for the consideration of health care providers.

> Of obvious importance is the length of the interval between first intercourse and first contraception . . . there was an average of 1.4 years between first intercourse and first contraception for those who initiated sex before age 15; whites tended to adopt a method

somewhat sooner (1.2 years) than blacks (1.7 years). Those adopting a medical method waited an average of 1.8 years, while those adopting a nonmedical method waited only 0.9 years.[9(pp138-139)]

Zelnik and Kantner[11(p68)] presented some results which were puzzling. Whereas one might believe non-contraceptors at first intercourse might indicate lack of interest in contraception, those females in this group, who later became contraceptors, used far more effective methods than those females in the group who used contraception at first intercourse. Regardless of possible reasons one might speculate about (whether due to pregnancy scare, maturation, new information, etc.), the South Carolina females in this sample greatly increased their use of medical methods as compared to their earlier sexual experiences. Over one half (56%) obtained their contraceptives from legitimate sources, i.e., private physician, college health services, or Planned Parenthood or public health clinics. Self-reports of effective contraceptive practices in terms of percentage of use were as follows: "always" — 61%, "75-95% of the time" — 14%, "50-75% of the time" — 4%, "25-50% of the time" — 6%, and "never" — 12%. Of those females who did not use contraception at most recent intercourse (20% of total active group), their reasons for not using were: "unnatural and destroys the personal relationship" — 16%, "expected partner to provide contraception" — 21%, and "unplanned or spur of the moment decision" — 47%. The "malignancy of silence" between sexual partners continues to pose problems considering that 20% stated "not at all" in terms of contraceptive discussion and 22% stated, "casual, but was not careful in planning."

Table 3
PERCENTAGE DISTRIBUTION OF RESPONSES BY NEVER MARRIED SEXUALLY EXPERIENCED SOUTH CAROLINA FEMALE COLLEGE STUDENTS TO STATEMENTS CONCERNING CONTRACEPTIVE PATTERNS WITH MOST RECENT COITAL EXPERIENCE (N = 161)

Questionnaire Item	*Percent**
In terms of my present knowledge, I received my contraceptive information (information only) primarily from: (Q. 27)	
Source of Information	
Medical doctor or nurse	33
College health service	9
Planned Parenthood or public health clinic	15
High school instruction and/or counselor	5
Parents or guardian	3
Book, TV, radio (mass media)	22
Friend's advice	10
None of the above — I know very little	3
In reference to my most recent participation in sexual intercourse, my partner or I used the following means of contraception: (Q. 26)	
Method	
Oral contraceptive — "pill"	49
IUD	4
Condom	20
Foams, jellies, or creams	3
Withdrawal or rhythm	14
Did not use any contraception	6
In reference to my most recent participation in sexual intercourse, I discussed contraception with my partner: (Q. 28)	
Response	
Very seriously and carefully planned	57
Casually but was not careful in planning	22
Not at all	20

* Total < or > 100% because of rounding error.

The above data relative to contraceptive use with most recent partner create some ambivalent thoughts. One can applaud the increased use of more reliable medical methods and the acquisition of information from physician or physician administered settings as these women mature. On the other hand, the significant number of females *not* using effective methods along with the absence of personal acceptance of responsibility (and ensuing discussions with partner) tends to suggest the problems of unwanted conceptions remains even though the respondents — college females — are older and more experienced.

RECOMMENDATIONS

1) *Public health-type clinics vs. private physician care*

Teen acceptance and utilization of public health-type clinics have been documented. Adolescent attitudes may be loaded with superstitious beliefs about private physicians which are too solidified to overcome. If such is the case, physicians must recognize the whims of youth, accept the realities of the social problem, and vocally support the continuation and enlargement of these organizations. One step further might be the support of adolescent sexuality clinics located in high school settings. A St. Paul high school-based family planning clinic project reported remarkable improvement in the reduction of pregnancies, fewer contraceptive dropouts, and considerable male involvement.[16]

2) *Office practice modifications*

"Confidentiality" and "easy access" have been documented variables necessary for adolescent contraceptive involvement with health care providers. Appropriate modifications in office practice might be a change in hours to accommodate in-school and working teens through late afternoon and night clinic hours. Perhaps special clinic hours for adolescents could be implemented.

Offices of some physicians are often devoid of educational materials. Reception areas and examining rooms could have wallspace taken up with educational posters, ample supplies of up-to-date educational materials, and the provision of videotape and audio-cassette hardware in which the patients can choose to utilize. Good educational materials abound and health educators in the community should be able to provide numerous resources acceptable to the physician.

The personnel in the office may be in need of inservice-type education relative to sexually active adolescents. The verbal and non-verbal behaviors of a receptionist or nurse may provide obstacles which the physician cannot overcome, regardless of his/her concern for the patient. If feelings of worth are diminished and if confidentiality appears to be questionable, the adolescent may be reluctant to present underlying crucial concerns.

Allied health professionals such as nurse practitioners, midwives, and health educators may be potential sources for assistance and "rapport-setting" in their educative, clinical, and service roles with the physician.

3) *Community Activities*

People perceive the physician as their "health authority" and comply accordingly when this person elaborates on health issues. Physicians can make community presentations to parents and youth detailing the realities of adolescent sexual behavior and promote primary prevention of the subsequent problems.

Youth are captive audiences in schools and physician support of school health programs and health services is crucial. Physicians can insist that the curriculums include the topic of pregnancy prevention along with the other usually accepted health curriculum items. Physicians can also insist that qualified health educators provide the health instruction rather than the common practice of allowing anyone to teach in this area. A national Gallup Poll in 1977 clearly established parent support for sex education. Locally, Farwell and Vincent[17] conducted a telephone survey of randomly selected parents of students in Columbia, S. C., and found overwhelming support for the inclusion of sex education in the school curriculum. The myth of parental disapproval of sex education in schools seems to be perpetuated by a few (1-10% or less) vocal community members and some unassertive school administrators.

Physicians have the clout to urge reluctant pharmacists to openly display condoms and foams and encourage their pharmacy employees to maintain a comfortable stance with teen purchasers.

Generally, the above ideas are examples of community activities which result from policy changes. Policy changes result from coordinated action taken by important community citizens. To be sure, physician voice in adolescent health issues will be a powerful motivator for change.

We suggest urgency in dealing with the complex social problem of unwanted conceptions. The recent epidemic of unwanted conceptions has created debilitating and unhealthy consequences for the involved individuals, family associates, and society in general. The costs are staggering. Consider the emotional and economic impact of abortions, prenatal care, delivery, and medical care for the many unplanned and illegitimate children; the loss of talent from the labor pool; the loss of tax revenue and educational opportunity for persons whose lives are interrupted; the cost of maintaining low educated individuals and illegitimate children at public expense; and the emotional conflict surrounding the many negative consequences of premarital sexual activity. Complacency seems inappropriate considering the attached human misery surrounding the issue. Physicians can be important allies and prime movers in the attempts to cope with this reality of our contemporary age. □

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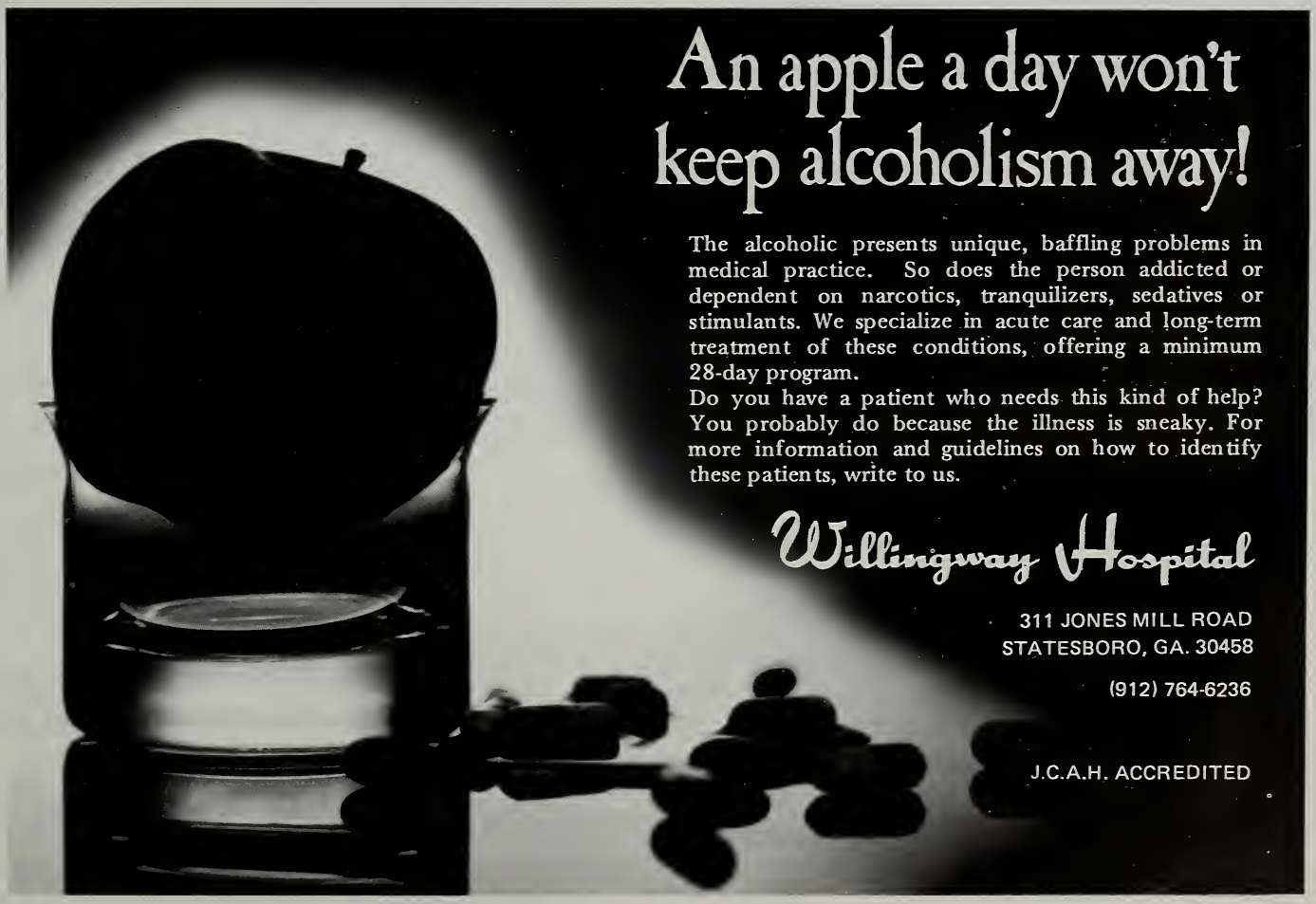

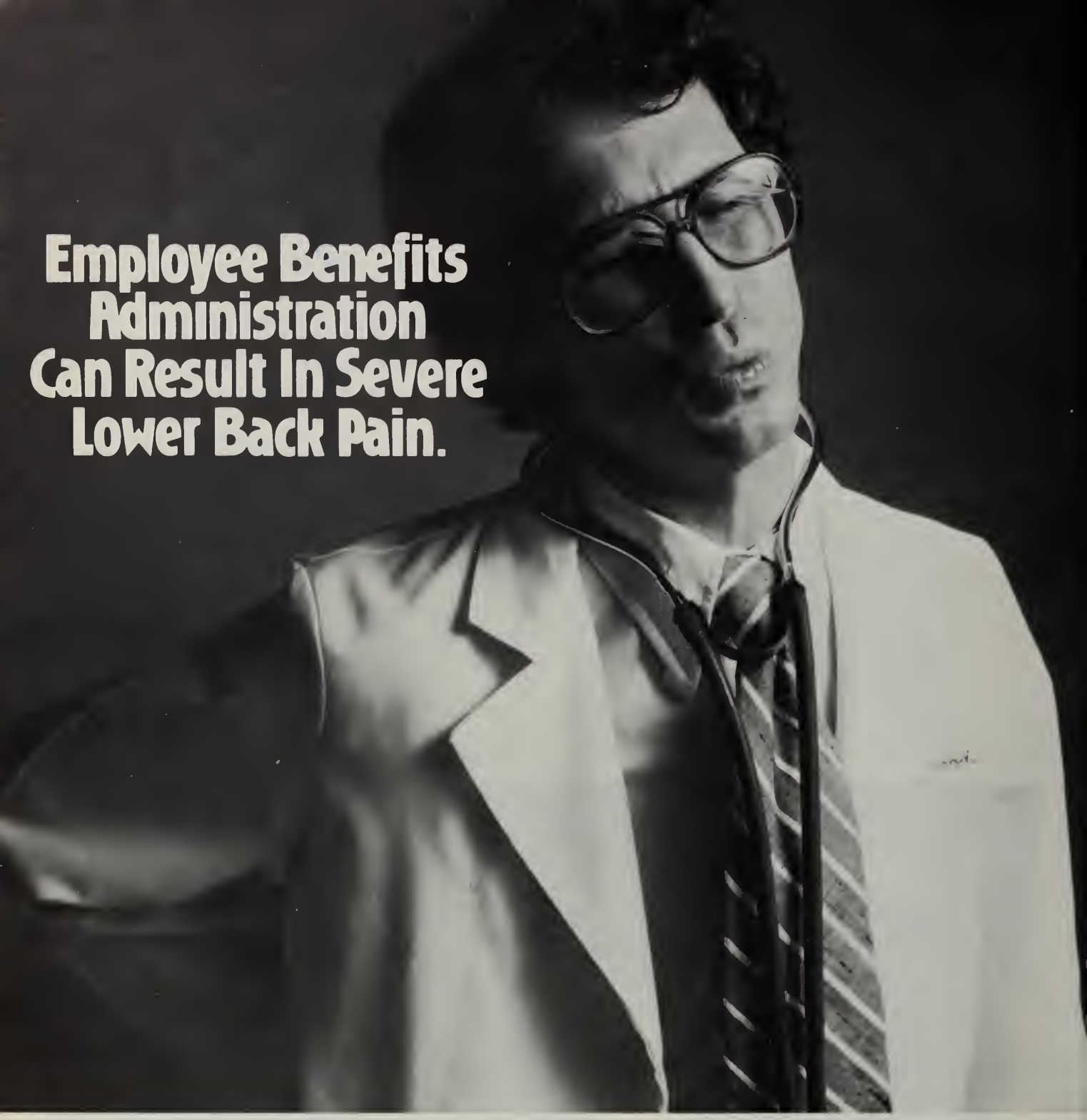

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Overweight patients in certain diagnostic categories often require strict obesity control. Diethylpropion hydrochloride has been reported useful in obese patients with certain complications. While it is not suggested that Tenuate in any way reduces these complications in the overweight, it may have a useful place as a short-term adjunct in a prescribed dietary regimen. Tenuate should not be administered to patients with severe hypertension; see additional Precautions and Adverse Reactions on this page.

In uncomplicated obesity

Many patients, on the other hand, present with excess fat but no disease. While this condition is often termed uncomplicated obesity, complications of both a social and a psychologic nature may be distressingly real for the patients. In these cases, a short-term regimen of Tenuate can help reinforce your dietary counsel during the important early weeks of an indicated weight loss program.

Clinical effectiveness

The anorectic effectiveness of diethylpropion hydrochloride is well documented. No less than 18 separate double-blind, placebo-controlled studies attest to its usefulness in daily practice.[1] And the unique chemistry of Tenuate provides "...anorectic potency with minimal overt central nervous system or cardiovascular stimulation."[2] Compared with the amphetamines, diethylpropion has minimal potential for abuse.

Tenuate–it makes sense. And it's responsible medicine.

Merrell Dow

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References: 1. Citations available on request from Merrell Dow Pharmaceuticals Inc., Cincinnati, Ohio 45215. 2. Hoekenga M T et al: A comprehensive review of diethylpropion hydrochloride. In Central Mechanisms of Anorectic Drugs, S Garattini and R Samanin, Ed, New York. Raven Press, 1978, pp. 391-404.

Tenuate® ⓒⅣ
(diethylpropion hydrochloride USP)

Tenuate Dospan® ⓒⅣ
(diethylpropion hydrochloride USP) controlled-release

AVAILABLE ONLY ON PRESCRIPTION

Brief Summary

INDICATION: Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly. When central nervous system active agents are used, consideration must always be given to the possibility of adverse interactions with alcohol. *Drug Dependence:* Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personalty changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. *Use in Pregnancy:* Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. *Use in Children:* Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: *Cardiovascular:* Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. *Central Nervous System:* Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache; rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. *Gastrointestinal:* Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. *Allergic:* Urticaria, rash, ecchymosis, erythema. *Endocrine:* Impotence, changes in libido, gynecomastia, menstrual upset. *Hematopoietic System:* Bone marrow depression, agranulocytosis, leukopenia. *Miscellaneous:* A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSAGE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride): One 25 mg. tablet three times daily, one hour before meals, and in midevening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swallowed whole, in midmorning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE: Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phentolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of June, 1980

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HIGHLIGHTS OF THE 1981 AMA ANNUAL MEETING

C. TUCKER WESTON, M.D.*

The 1981 Annual Meeting of the American Medical Association was held at the Marriott Hotel in Chicago, June 7-11, 1981. South Carolina was well-represented by President William H. Hunter, M.D.; President-Elect Euta M. Colvin, M.D.; Chairman of Council Randolph D. Smoak, Jr., M.D.; Vice Chairman of Council Leonard Douglas, M.D.; AMA Delegates C. Tucker Weston, M.D. and Waitus O. Tanner, M.D.; AMA Alternate Delegates John C. Hawk, Jr., M.D. and Donald G. Kilgore, Jr., M.D.; and SCMA Executive Vice President, Mr. Charles Johnson. Our Resident member of the Council on Medical Services, Stewart Haskin, M.D., was also in attendance.

The President of the AMA, Robert Hunter, M.D., suffered an acute gastric hemorrhage on Thursday prior to the opening of the Convention, and was hospitalized and unable to be present. By the end of the Convention, he was progressing well and we were told he would be able to travel back to his home in Washington state within another week. Dr. Daniel T. Cloud was installed as the new President of the AMA for the upcoming year.

With 283 Delegates, this was the largest House in AMA's history. Five state societies received an additional Delegate seat due to membership increases.

CONSTITUTION AND BYLAWS

Dr. John Hawk, our Alternate Delegate and member of the AMA Council on Constitution and Bylaws has summarized the Convention decisions with regard to Constitution and Bylaws changes, and his comments follow.

One of the most controversial topics at this annual meeting related to the recommendations of the Council on Long Range Planning and Development and was that *direct* membership in the AMA be made available as a membership option. The Board of Trustees provided a proposed implementation plan, designed to reassure the constituent state and county associations that their own membership efforts would not be undercut by the AMA, and that hopefully they might even be enhanced. Debate was heated, both in the Reference Committee and on the floor of the House. The measure passed by a vote of 140 to 122. The Board of Trustees was asked to report to the House after three full years of experience with the Direct AMA Membership Option, providing a full review and re-appraisal of the program.

Direct members from each state will be counted for purposes of determining the number of delegates to the AMA House of Delegates from each state. This will include direct Resident and Student members, which may be of considerable importance to the SCMA in bringing South Carolina close to having enough AMA members to qualify for a third delegate and alternate delegate.

Several other items relating to membership and dues were acted upon as follows:

— The Bylaws were amended to delete a section which has, in the past, given AMA dues exemption to anyone qualifying for dues exemption in his state association. Since state criteria are variable and in some cases quite "loose", this has led to a high number of AMA members exempt from dues. This change will not be applied retroactively to those members currently dues exempt. In a parallel action, a provision was added to the Bylaws which states: "Additionally, the Board of Trustees may excuse members from payment of dues to alleviate financial hardship or because of forced retirement from medical practice due to physical disability. The Board of Trustees shall establish appropriate standards and procedures for granting all dues exemptions".

— A Resolution proposing that the Bylaws be amended to provide an additional seat in the House of Delegates for each state medical association which has unified membership in the AMA was *not* adopted.

* P. O. Box 706, Columbia, S. C. 29202

— A Resolution was adopted to amend the Bylaws to delete the requirement of either American Medical Student Association membership or the endorsement of two AMA members as a condition of medical student membership in the AMA.
— The Bylaws were amended to change the name from Student Business Section to Medical Student Section.
— A Resolution was adopted to amend the Bylaws to allow medical students to serve as delegates from state medical associations, if so elected.

Seven new specialty societies were given representation in the House of Delegates, but at the same time the Board of Trustees was directed to review the objectives and criteria under which specialty societies are granted such representation, paying particular attention to the total and number of members, the total number of physician members, and the total number of AMA members in the specialty society. The Board is to report to the House before additional specialty societies are considered for representation.

REORGANIZATION AND DUES INCREASE

A major report of the Board of Trustees calling for a reorganization of AMA structure and staff and a $35 annual dues increase received the most attention. We approved most of the Board's proposals and the dues for 1982 will be $285 for regular members. Dues for medical students and residents remain at $15 and $35 respectively.

In adopting a new functional profile for the AMA, the House called for *representation* of the medical profession to be the number one priority for the Association. Other primary functions are:
— Providing information, both scientific and socio-economic
— Establishing and maintaining standards of conduct and performance
— Sharing with other organizations the maintenance and implementation of educational standards.

In recognition of the special financial circumstances of new physicians and those in military service, the House adopted some dues incentives. We need to encourage physicians to join and become involved in organized medicine early in their medical career. Young physicians in their *first* year of practice now pay 50 percent of the regular dues; and at the recent meeting, the House voted to set the dues of physicians in their *second* year of practice at 75 percent of regular dues. Beginning in 1982, physicians in military service will pay two-thirds of regular dues.

OTHER ACTIONS

In other actions, the House voted to:
— Request a Board re-evaluation of Association policies on health manpower and their relevance to current developments in physician supply, roles of allied health professions, medical education, and the health services market.
— Support the elimination of government funds for new start-ups of health maintenance organizations and for the termination of funds for other HMO'S after completion of the current funding cycle.
— Endorse the concept of equal rights for men and women, but not the Equal Rights Amendment.
— Recommend to hospital staffs that admission histories and physicals be performed only by physicians.
— Urge the Food and Drug Administration to accelerate review of drugs on its "lacking evidence of effectiveness list."
— Urge the Federal Aviation Agency to study medical emergencies on commercial planes and how they were treated with currently required medical kits.
— Support a Bill that would place a moratorium on the Federal Trade Commission's activities involving professionals.
— Oppose state laws making a physician's licensure contingent upon providing services to Medicaid beneficiaries or any other specified category of patients.
— Have the AMA develop an educational program dealing with child molestation, incest, and exploitation of children.

In closing, your SCMA Delegation was extremely proud of the SCMA Auxiliary, They were well-represented by an enthusiastic Delegation and received nine awards for their outstanding accomplishments during the past year. Particularly noteworthy was Sheila Davis' leadership as Membership Chairman for the past year. Details of the Auxiliary's accomplishments were published in the July issue of this *Journal*. On behalf of the entire SCMA Delegation to the AMA, we wish to thank our members for the opportunity to represent you and express your views at the national level. □

President's Page

A CALL TO ARMS

As your elected leader, I am calling on the physicians of this state to put together our most formidable political organization of all time. We have the numbers, the organization, the intelligence, the reason, the will, the staff, and we can raise the money to accomplish this. If we don't do so, then I promise you the resultant synthesis will not be anywhere near your heart's desire. You will shortly be hearing from your leadership. This can only be accomplished with the concerted energy of all of us.

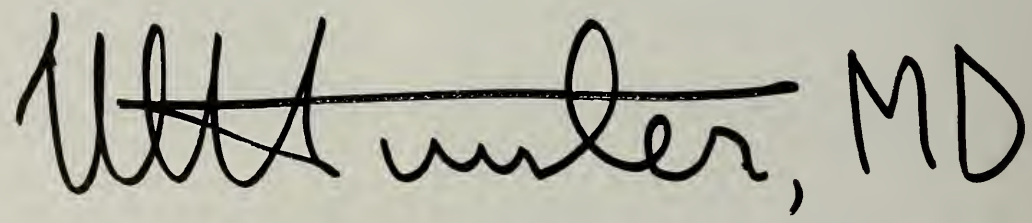
For many years, we physicians have labored under the impression that if we looked after our patients properly, practiced good medicine, then that was all that was necessary to be right with the world. This is no longer true; our profession is being attacked from all sides. As Hegel would apply his dialectic idealism; any institution, no matter how good, will develop its opposition, its antithesis. This is true of all movements, ideas or institutions, and the more successful such theses are, then the more sure their antitheses. As an example, even motherhood had its detractions in the pen of Phillip Wylie in the 1940's and 50's. The synthesis from all that is what we wish to avoid in the future.

Certainly all things change, or else atrophy. Toynbee, in his classic "Study of History", applied the Hegelian dialectic to why civilizations fall, there being two reasons; first, little internal and external stimuli with resultant decay; and secondly, overwhelming pressures that destroy. However, there is also a resultant synthesis of any destruction or change. Therefore, such stimuli can have a beneficial result but we must respond properly.

This resultant synthesis is what we must be concerned with in medicine. Medicine in the United States and South Carolina is changing, some changes good, some bad. Many of these changes we have instituted from within and are steady improvements. External attacks and stresses have been sometimes constructive, but, often as not, destructive. It is these destructive forces from without that we must meet head on with all our power in order to have a resultant synthesis nearer our declared aim, to protect the health of the people of South Carolina. At the same time, we must minimize destructive forces from within — apathy within our physician ranks.

A distinguished member of the Legislature, a Committee Chairman, recently said to me, "Bill, the SCMA is a sleeping giant".

Now is the time; wake up!



WILLIAM H. HUNTER, M.D., *President*

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Contraindications:

Do not use HEMTREX/HC Topical Medicated Foam or HEMTREX/HC Rectal Suppositories in patients with tuberculosis of the skin or with a history of sensitivity to any of the components in the preparation. Prolonged use during pregnancy is contraindicated (See Precautions).

Do not use HEMTREX/HC Rectal Suppositories in patients with heart disease, high blood pressure, hyperthyroidism, diabetes, difficulty in urination, or who are taking tranquilizers or nerve pills.

Warnings:

For HEMTREX/HC Topical Medicated Foam: CONTENTS UNDER PRESSURE. DO NOT PUNCTURE OR INCINERATE. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Do not insert any part of the aerosol container into the anus. Keep this and all medications out of the reach of children (See Precautions).

Precautions:

If irritation develops, the product should be discontinued and appropriate therapy initiated. In the presence of an infection resistant to treatment with antifungal or antibacterial agents, discontinue the use of the product until the infection has been controlled.

Pregnancy Category C—Hydrocortisone has been shown to be teratogenic in mice, rats, rabbits and hamsters when given in doses therapeutically equivalent to dosages used clinically in man. Those studies did not, however, evaluate the effect of topically applied drug.

There are no adequate and well controlled studies in pregnant women. Hydrocortisone should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus. Infants born of mothers who have received substantial doses of corticosteroids during pregnancy should be carefully observed for signs of hypoadrenalism.

Topical steroids should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time.

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The following localized adverse effects, although rare, have been reported with corticosteroids, especially under occlusive conditions: burning, itching, irritation, dryness, folliculitis, hypertrichosis, acneform eruptions, hypopigmentations, allergic contact dermatitis, maceration of the skin, secondary infection, skin atrophy and miliaria.

Dosage and Administration:

HEMTREX/HC Rectal Suppositories: Use one suppository at bedtime and one in the morning. Do not use for more than six days unless directed by a physician.

HEMTREX/HC Topical Medicated Foam: Use before and after each bowel movement making certain to leave a protective coating after cleansing. Repeat when necessary to maintain comfort, up to three or four times daily. Do not use for more than six days unless directed by a physician.

How Supplied:

HEMTREX/HC Rectal Suppositories are available in boxes of 12.

HEMTREX/HC Topical Medicated Foam is available in 1.4 oz (40 gm) canisters which, depending on use, contain between 30 and 40 foam applications. *Store at room temperature—not over 120°F.*

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HEMTREX Hemorrhoidal Medicated Cleansing Foam is available in 1.4 oz (40 gm) and 3 oz (85 gm) canisters.

Labelling Prepared: January 1981

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Editorials

KEEPING A PERSPECTIVE ON NEWER DIAGNOSTIC TECHNOLOGY

Medical historians reflecting on the final decades of the Twentieth Century will no doubt feel that modest strides had been made in diagnostic techniques as judged by contents of leading medical journals of the day and the emergence of atlases of computed tomographic scanning, ultrasonography, arteriography, endoscopy and the wealth of information on nuclear medicine and isotopes (although primitive to our future ancestors). Our historical pundits of the future will no doubt applaud the plethora of learned writings on that oft quoted Twentieth Century phrase, "cost effectiveness". They will critically assess our application of this "first generation" technology and might even find merit in the algorithmic approach to medical problems as noted in several writings of the period. Although our current length of stays will seem exorbitant to the future chroniclers, they hopefully will at least applaud our theoretical protestations that our diagnostic techniques, when used correctly, had gotten us to a more timely and correct answer.

The more scholarly and compulsive of those future medical sleuths will no doubt review those documents once referred to as "inpatient charts". Here alas, our weaknesses will be uncovered. All the journalistic rhetoric claiming a more straightforward approach to diagnosis will be meaningless after reviewing those many patients with a pancreatic mass and biliary tract obstruction who had sequential performance of an ERCP, percutaneous cholangiogram, upper GI, ultrasound, liver scan, arteriogram and CT scan. Those critical reviewers will be further amazed to find patients undergoing tumor staging with ultrasound, lymphoscintigrams, liver-spleen scan, lymphangiography *and* CT scanning.

Although we have the techniques and basically the right ideas we will be labeled as the "Age of Non-Selection" in our use of newer diagnostic techniques. In order to pay more than lip service to the benefits of non-invasive testing, timeliness of diagnosis, and cost-reduction in the diagnostic phase of medical care, we must be willing to phase out the less sensitive and selective studies rather than adopting the concept that patients must receive all possible studies now extant before we can make a therapeutic decision. We must keep our perspective and impart this perspective to our medical legacies of the future; by so doing, history will hopefully treat us kindly.

— Frederick L. Greene, M.D.,
Chief, Surgical Service
William Jennings Bryan
Dorn Veterans' Hospital
Columbia, S. C. 29201
Member, Editorial Board

THE CT SCAN AND THE TECHNOLOGICAL IMPERATIVE

"It is to be regretted that, in the medical profession, as in many others, when a good thing is introduced often the pendulum swings too far, and discredit is thrown upon the thing or method before maturer experience causes it to swing in its proper arc, proving the old Latin axion to be true, 'In medias res tutissimus ibi.' "

— L. C. STENNIS, M.D.

In the preceding editorial, Dr. Frederick Greene reminds us of the overwhelming battery of newer diagnostic tests which now find frequent application in clinical medicine. How future historians will judge our current diagnostic maze makes interesting food for thought, but we should remember that such confusion and second thoughts are almost inevitable after the introduction of a new procedure. The above quotation from Dr. Stennis, of Greenville, appeared in

The Journal 76 years ago — in 1905. The title of Dr. Stennis' article was "Physiological saline solution: its uses and abuses"!

Leading the battery of newer tests is the computerized tomographic (CT) scanner, now available for searches beyond the cranial vault, where it first found wide application. It seems inevitable that if the future historian considers the most important medical instrument of the mid-twentieth century to have been the telephone, he will consider the most important instrument of late twentieth century medicine to have been the computer. Some of our prophets predict that computers will radically transform medicine as we know it. Some allege that computers can already replace physicians for recording the medical history. No less a sage than Dr. Lawrence Weed suggests that computer storage capacity makes traditional memorization of medical fact and habitual journal reading obsolete. It seems highly likely that computers will change the current cumbersome format of medical records. But the most dramatic application of computer technology to medicine to date *has* to be the invention, by enterprising Englishmen, of the CT scan.

Although many of us will no doubt continue to protest wide and indiscriminate application of the CT scan, the method is clearly here to stay and will be used with ever-increasing frequency and accuracy. With nostalgic narcissism, we will wave the banners of the meticulous history, the unhurried physical examination, and the thoughtful bedside deliberation — and we will then order the scan anyway. The imperative to use available technology for a patient's benefit is a powerful force, and a not altogether undesirable one.

The radionuclide scans, the ultrasound examination, and — now — the CT scan rank among the most humane diagnostic tools ever devised. They will spare numerous patients the need for invasive procedures such as arteriograms, pneumoencephalograms, biopsies, and explorations. We in medicine should remember with humility that most of these advances were given to us by scientists in other fields, and we should strive to use these tests — as Dr. Greene exhorts us — responsibly.

— CSB

R

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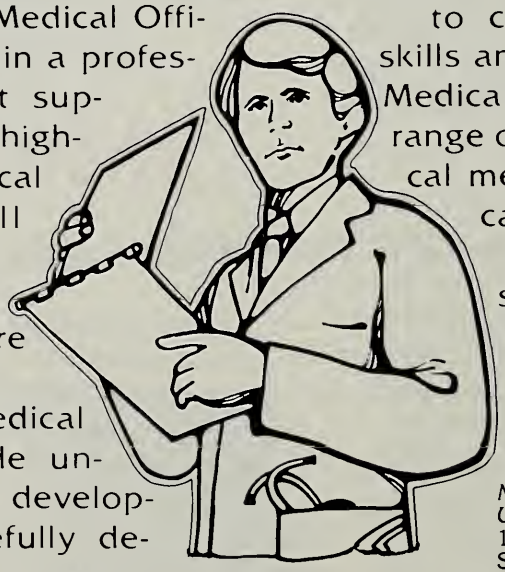

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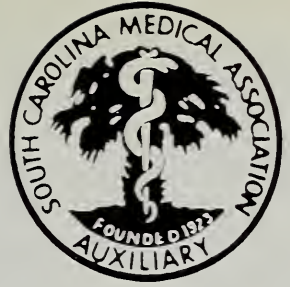

MEDICAL AUXILIARY MEMBERS ARE DOING GOOD DEEDS ALL OVER THE STATE OF SOUTH CAROLINA

If you need someone to do a good deed, ask your County Medical Auxiliary. Doctors' spouses in South Carolina are constant and untiring in their personal dedication of service to their communities.

Children over the state are benefited by Auxiliary programs. The Charleston Auxiliary is responsible for a state-wide interest in parent education on the subject of child restraints. They are supporting the organization of Loaner Programs for childrens' car seats through local hospitals. York County is co-sponsoring a program teaching safety rules to children who ride tricycles, bicycles or mopeds with the Parks and Recreation Dept. in Rock Hill.

Spartanburg County Auxiliary approved $2,000.00 for the Children's Shelter, and has shown the film "Drugs Are Like That" to approximately 1,000 third graders. Oconee County sponsors the local Candy Stripers program. Greenville County's "Smoking Sam" project has reached into 29 schools, acquainting 2,136 third-graders with the dangers of smoking. Greenville also raised almost $900.00 in co-sponsoring Shoney's Day for Retarded Children.

The good deeds of South Carolina Auxilians benefit older citizens around the state. In Dorchester County, the "Vial of Life" program has been introduced to every senior citizen's group in the area. Greenville County Auxiliary members host monthly birthday parties at the Senior Action Center and arrange entertainment and refreshments for the 40 or so senior citizens who attend. Spouses of Sumter-Clarendon County physicians visited five nursing homes on Valentine's Day and delivered heart sachets to each person.

Our state history is enriched by Medical Auxiliary good deeds. The Hampton County Medical Society Auxiliary compiled a list of physicians who registered to practice in Hampton County since 1878, and placed it along with biographies, anecdotes and memorabilia in the County Museum and the library at the Hampton General Hospital. In York County, the Auxiliary has taken as its project, the restoration of the doctor's office at Brattonsville, an historic community in rural York County. Medical tools and furnishings of the period from 1800-1900 have been donated by physicians.

The good deeds Auxiliary members have been doing all over the state are tremendous. These dedicated women and men are not only generous with their time — they also raise a tremendous amount of cash for scholarships and community support. South Carolina American Medical Association Education and Research Foundation has received over $18,000.00 this year from the Auxiliary. Scholarships which add up to thousands of dollars are given locally in health and health-related fields, to medical students, nursing students and high school students. This money is all raised by Auxiliary work and projects.

The shelter for abused and neglected children in Charleston is supported by Auxiliary work. Dorchester County Auxilians assisted in a screening program for pre-school children with developmental handicaps. The Newberry County Hospital saved an estimated $10,000 in its budget this past year because of over 3,000 hours of Auxiliary volunteer work. Oconee County pediatric nurses wore smocks made by Auxiliary members.

Each Auxiliary in this state has many activities — so many, that to list them would take several pages. The volunteer hours given by husbands and wives of South Carolina doctors are uncountable. Unselfishly they have contributed two of the most valuable things they possess — their time and energy — to help make this state a better place for us all.

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From the State House: LEGISLATIVE UPDATE

It is early September as this Update is being written, and the Legislature has not technically adjourned, but the 1981 session--except for Reapportionment and Bond measures--is all over. Issues not disposed of in 1981 will "carry over" until 1982. This gives us time to treat two subjects in greater depth: Our new SCAPELL Program (South Carolina Auxiliary-Physician Educational Legislative Liaison) and our Chiropractic Legislation.

Problems in the area of Chiropractic, addressed in 1981 but not significantly dealt with, will face the Legislature in 1982. This Update will focus a great deal on this problem and how we plan to address it. We wish to make particular reference to the President's Page, where the comments made by our President, Dr. Bill Hunter, closely parallel some of those stated here.

Historically, the State Legislature has been much like the U. S. Congress. It has had very strong leadership, and its actions were generally predictable. Reapportionment began a gradual change in the make-up of the Legislature; changing demographics in this state made the changes more pronounced. The passage of "Home Rule" legislation changed the priorities of many legislators, and, in this age of mass media, all of the major newspapers in the state now have "State House" coverage.

This translates into a typical Legislator being very independent-minded, very conscious of the constituency within his District, and reluctant to follow the dictates of two or three strong leaders or committee chairmen. It means we can no longer count on "old influential friends" in the Legislature to help us with our concerns. It means we have to pay attention to every elected state official and keep him informed of our viewpoints.

In the past six years, those persons who ply their trade in the profession of Chiropractic have persuaded the State Legislature to grant them ever-greater rights to utilize certain treatments and, in turn, the Legislature has mandated their reimbursement via Medicare, Medicaid and through private insurance reimbursement mechanisms.

They have accomplished this simply because they have been politically active and have focused their efforts on the entire elected General Assembly. They contribute as a group much more than physicians, and this is true notwithstanding the fact that physicians outnumber Chiropractors ten to one. When legislation affecting them arises at the General Assembly, their numbers often average 50 or 60 each day in attendance--sometimes covering several weeks in duration. Physicians will never have the time to go sit in the hallways of the Legislature--they are too busy with their practices, families, civic work, etc. Physicians can meet these non-M.D. groups in influence in two ways: 1) support good candidates; and 2) more involvement with legislators in their district. The first way does not need explanation, but the involvment (i.e., communication) with legislators must improve. This is what Dr. Bill Hunter is speaking of on the President's Page when he talks about the SCAPELL Program.

In increasing this involvement, we ask that you contact your local (county) medical society President or the Chairman of the county society's Legislative Committee, volun-

teer to serve on a committee or committees for one or more legislators, study the issues that will be discussed, and be ready to begin working with these committees in meeting and working closely with your legislative delegation. Do this immediately! If you have not done so already, tell your society Legislative Chairman or county society President of those legislators that you know and are willing to contact on particular issues. Add your name to our "Key Man" Contact List. And lastly, if you are not already a member of SOCPAC, join! Organized giving lends credence to our espoused positions.

We do and will have many issues facing us in the General Assembly; however, the Chiropractic issues will be a litmus test as to whether or not we will be listened to, whether the health of the public will be considered, and whether an increasingly influential group will be refused their continuing request to broaden their tenacles in the medical arena.

Articles appearing in the September and October, 1975 issues of "Consumer Reports" give thorough study to Chiropractic. One article stated, "Despite improvements in other areas, education and diagnosis remain a stepchild--especially in comparison to the training received by physicians." The article went on to say ". . . most of the people teaching diagnosis are the very same Chiropractors who were trained in the 1960's and earlier, when our educational standards . . . and attitudes towards diagnosis were far from ideal." The article summarized diagnostic training of Chiropractors by stating, "Clearly, the scope, quality and length of Chiropractic education cannot provide the depth of diagnostic training a physician receives. Even more fundamental, however, is the validity of what the Chiropractor learns. If it is unsound, more training might only compound the error."

The report concluded, "Overall, the Consumer's Union believes that Chiropractic is a significant hazard to many patients. Current licensing laws, in our opinion, lend an auora of legitimacy to unscientific practices and serve to protect the Chiropractor rather than the public. In effect, these laws allow persons with limited qualifications to practice medicine under another name. We believe the public health would be better served if state and federal governments used their power of the purse to restrict Chiropractors' scope of practice more effectively."

Recognizing that many people will seek Chiropractic services, regardless of their reported concerns, Consumers' Union warned against 1) "a practitioner who makes claims about cures, either orally or in advertising. Anyone who implies or promises guaranteed results from treatment should be held suspect." 2) Chiropractors who ask one to sign a contract for services; and 3) ". . . anyone advertising free x-rays. Radiation should not be used as a lure." Consumer's Union also warned about Chiropractors who do not refer patients to other health professions, avoidance of Chiropractors demanding advanced payments and offering "discounts," and warned against "scare tactics, such as threats of irreversible damage if treatment isn't begun promptly." This entire two-pronged report covering some eleven full pages in two separate issues, ended with the following sentence, "CU would add one more precaution: See a physician as well and find out what he or she has to say about the problem."

In short, the SCMA believes that the present Chiropractic Law is overly broad and should be better defined to specifically provide what Chiropractors can and cannot do in this state. Such a law change would still allow or permit well-intentioned Chiropractors to provide care to patients within the framework of their training and capabilities.

H.2066, addressing these problems, was introduced this year in the House of Representatives. An identical Senate version is to be introduced on or about October 3rd (the scheduled date of final adjournment and a time when new bills can be filed).

We expect these bills to be taken up in Committee hearings--perhaps as early as this fall. Contact the State Senators and Representatives in your area. Urge passage of the SCMA-supported Chiropractic bills.

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IMMUNITY TO RUBELLA AND MEASLES IN ADOLESCENT FEMALES IN SOUTH CAROLINA*

HAROLD DOWDA, Ph.D.
SARAH J. ROBINSON, M.A.

In 1973, a law was enacted in South Carolina which required that each child entering school present evidence of immunization against a variety of infectious diseases which include rubella and measles. Despite the availability of effective and safe vaccines for rubella and measles, outbreaks of these diseases occurred in South Carolina during 1978, 1979, and 1980. These recurring outbreaks primarily involved that segment of the population above the age of ten and often appeared on college campuses. Although immunization was available in 1973 to individuals currently in the 10-20 age group, most were already in school when the law was fully enforced. As recurring outbreaks were observed, it seemed of interest to determine whether the rates of immunity to rubella and measles were unusually low in this age group prior to the outbreaks.

Awareness of immunization rates in the adolescent and young adult female population is made more important in that these individuals are in the early child bearing years. In 1977, there were 10,941 births in South Carolina to mothers between 12-20 years of age. This would represent a reservoir of potential congenital birth defects if a significant proportion of females in this age group were not immune to rubella. Indeed, if immunization levels were found to be especially low, considerable benefit might be derived from an active immunization program.

A study published in 1968 by Robinson, *et al.*,[1] before the availability of rubella vaccine and prior to the immunization law, found that 84.7 percent of a group of adolescent and young adult females showed titers to rubella virus and thus were probably immune. With the subsequent availability of vaccine, it was hoped that the proportion of individuals susceptible to rubella could be significantly reduced. It was the purpose of this study to determine the levels of immunity to rubella just prior to the rubella and measles outbreaks of 1978-1980 and compare these with levels prior to the use of vaccine. Measle immune status of the young adult population of South Carolina has not previously been determined, so this study establishes the baseline for future monitoring of immunity to this disease.

MATERIALS AND METHODS

The sera used in this study were collected in 1978 from 263 female volunteers and referrals to public health venereal disease and family planning clinics in all areas of South Carolina. The sera were obtained prior to the requirement in 1980 that high school students had to present documentation of immunization. The individuals included in this study were 11 to 20 years of age and had sought treatment for conditions other than exanthams. The persons included in this

* From the Bureau of Laboratories, South Carolina Department of Health and Environmental Control, Columbia, S. C. 29202.

study were seeking assistance at public health facilities, so it is possible that the study is biased towards a more economically disadvantaged segment of the South Carolina population.

Antibody to rubella virus was detected by hemagglutination inhibition using chick erythrocytes and kaolin for absorption of non-specific inhibitors. Antibody to measles was detected by hemagglutination inhibition using Rhesus erythrocytes. A titer of 1:10 was considered evidence of immunity. The antigens and blood cells used in the procedures were obtained from various commercial suppliers. The statistical significance of differences between sets of data were determined using the Chi-square (X^2) technique.

RESULTS AND DISCUSSION

Rubella

The Results of tests to determine immunity levels are summarized in Table 1.

Table 1.
RUBELLA AND MEASLES IMMUNITY IN 263 FEMALES 11-20 YEARS OF AGE

Test Group	*Age*	*Number Tested 1978*	*Immune to Rubella* 1978*	*Immune to Rubella* 1968*	*Immune to Measles* 1978*
Black	11-15	26	24 (92)†	(71)	24 (92)
	16-20	158	131 (83)	(88)	153 (97)
	All Ages	184	155 (84)	(80)	177 (96)
Caucasian	11-15	12	9 (75)	(85)	9 (75)
	16-20	67	63 (94)	(91)	62 (92)
	All Ages	79	72 (91)	(88)	72 (91)
Totals	11-15	38	33 (87)	(80)	33 (87)
	16-20	225	194 (86)	(90)	215 (96)
	All Ages	263	227 (86)	(85)	248 (94)

* Titer of ≥1:10
† Figure in parenthesis is percent immune

Of the black individuals in this study, 84 percent were immune compared to 80 percent in 1968. Although this shows some increase in the rate of immunity to rubella in this group over the last ten years, the increase is not statistically significant. Immunity to rubella was found in 92 percent of the 11- to 15-year-olds compared to 71 percent in 1968. This represents a significant ($p < .05$) increase in the levels of immunity to rubella in this segment of the population. In the black 16- to 20-year-old group, however, the prevalence of rubella immunity was 83 percent in 1978 compared with 88 percent in 1968. While this is an apparent decline in levels of immunity, the difference is not statistically significant.

Among Caucasians there was an overall immunity rate of 91 percent compared with 88 percent in 1968. The rubella immunity rate in the 11- to 15-year-old group was 75 percent in the present study, but the numbers tested were very small and comparison with the 1968 rate of 85 percent cannot be validly made. In the 16- to 20-year-old group, 94 percent were immune to rubella in 1978 and 91 percent in 1968.

In the entire study group, there was a rubella immunity level of 86 percent which is not significantly different from the 85 percent rate found in the similar population of the 1968 study. In the 11- to 15-year-old group, 87 percent of the individuals were immune in 1978 as compared with 80 percent in 1968. As previously noted, the majority of this increase has come as the result of an increase in the level of immunity in the black segment of this population. Most of the persons in the 11- to 15-year group would have probably been entering school during the period shortly after the 1973 immunization law was passed, so that the effects of such legislation can begin to be seen in this group. In the 16- to 20-year-old group, 86 percent of the individuals were immune to rubella in the present study compared with 90 percent in 1968. This difference is not statistically significant, but may suggest the possibility that young adults who may not have received vaccination as children are not being immunized.

Reports of rubella immune status from nationwide studies indicate that 15 to 20 percent of adolescents and young adults are susceptible to rubella. The present study indicates that South Carolina rates are consistent with the national pattern. If emphasis has been placed on immunization of young children to the exclusion of older children and young adults, the result is a significantly large group of females in the early childbearing years susceptible to rubella with the consequent risk of a birth defect. Over the last five years, rubella has become primarily a disease of adolescents and young adults, instead of preschool and school children. Indeed, 70 percent of the cases of rubella in the United States are now in persons older than 15 with the 15- to 19-year-old group being most commonly infected, and the 20- to 24-year-old population the next most commonly involved group.[2] The presence of rubella susceptibility in this group is especially unfortunate, since it has been shown that in a

population of young adults, immunity to rubella could be increased from 80 percent to 93 percent simply by use of an educational program and the availability of vaccine.[3]

Measles

Findings concerning the immune status of the study group to measles are also summarized in Table 1. Levels of antibody sufficient to confer immunity were found in 94 percent of the subjects tested. Although the rate of immunity was greatest in the 16- to 20-year old group (96 percent) and less in the 11- to 15-year-old group (87 percent), the difference between the groups is not statistically significant.

Since the acceptance and general use of measles vaccine, the age distribution of measles cases has also changed. Nationally, over half of the measles cases are now seen in children over 10, with the years 12 through 15 most commonly involved.[4] The level of immunity to measles in 1978 in the 11- to 15-year-old group in South Carolina was 87 percent; however, outbreaks of measles still occurred in 1979 and 1980 in this group and in the 16- to 20-year-old group. In any event, outbreaks point up the need for immunization of susceptible adolescents and young adults.

In 1980, regulations for immunization documentation were expanded to include all persons in South Carolina attending public or private primary or secondary schools. In five years a study similar to that presented here might document a great increase in the rate of immunity to rubella and measles in the 11- to 20-year-old populations. Until this can be demonstrated, care should be taken that the individuals in this group have an opportunity to receive information about immunization and vaccine. □

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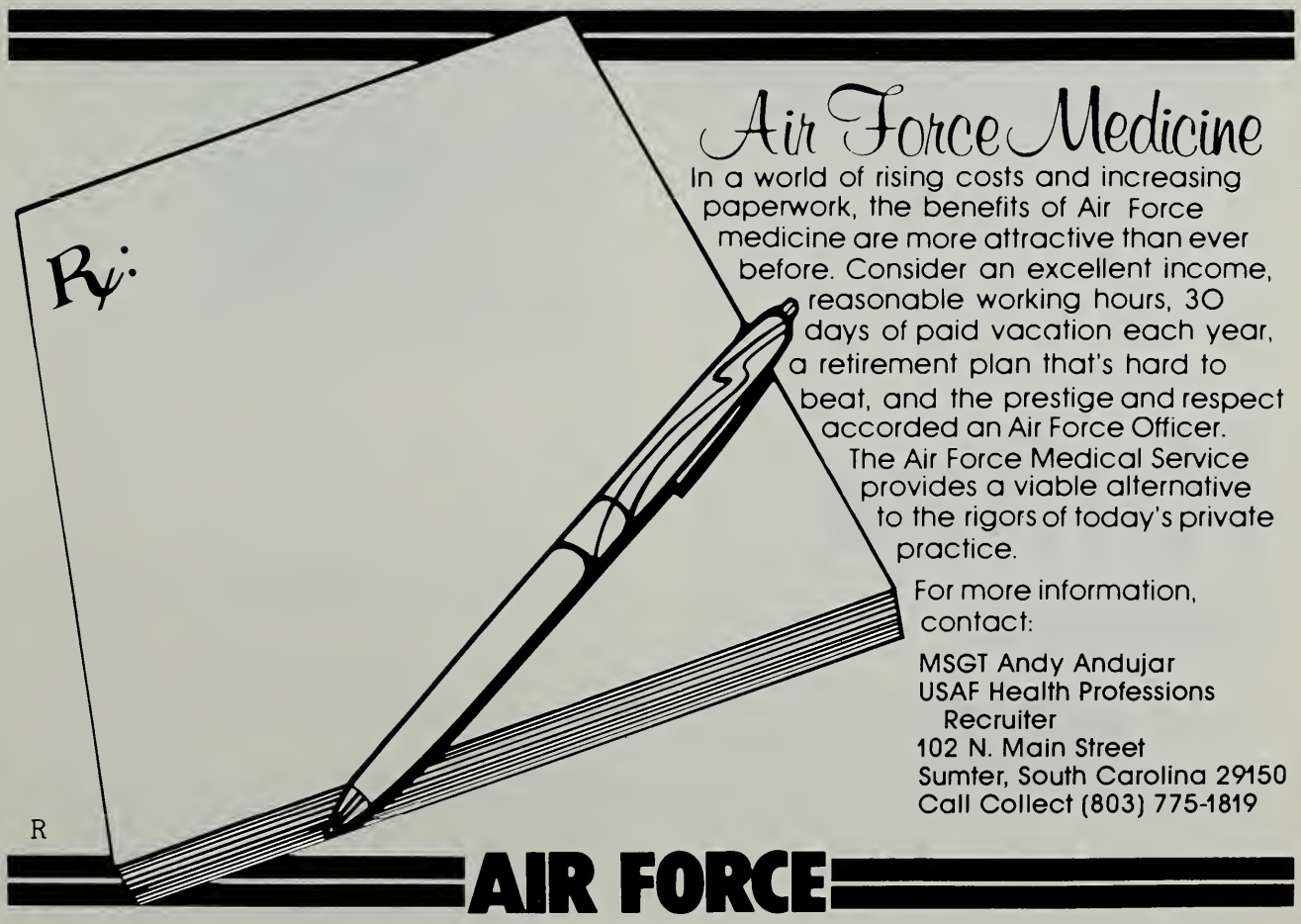

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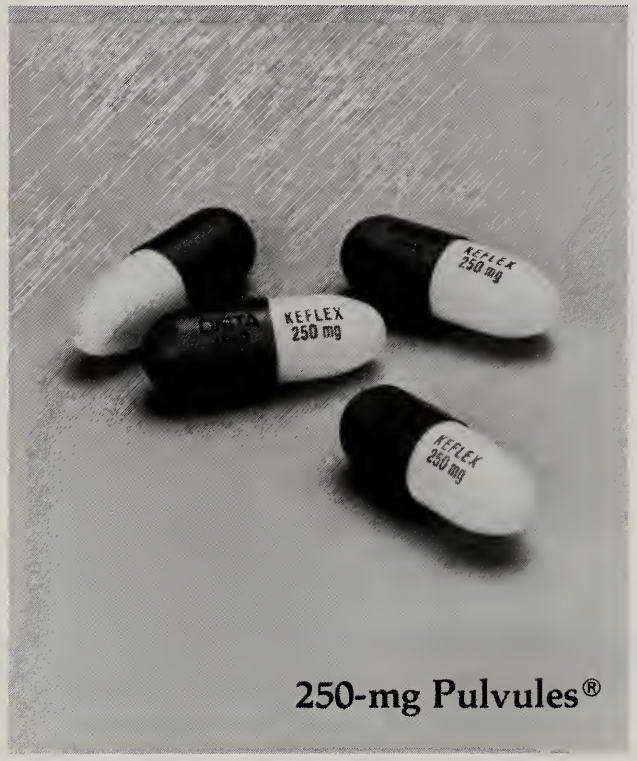

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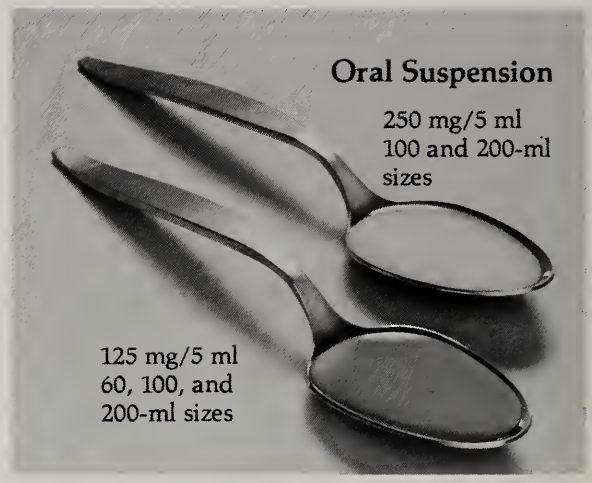

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TRANSTHORACIC NEEDLE ASPIRATION IN THE MANAGEMENT OF PULMONARY INFECTIONS*

JULIO ARROYO, M.D.
VICTOR GORDAN, M.D.
BOSKO POSTIC, M.D.

Transthoracic or percutaneous needle aspiration (TNA) of the lung was introduced as a diagnostic procedure almost a century ago; however, its popularity has fluctuated widely as other diagnostic techniques evolved. Because of its high diagnostic yield, TNA is invaluable in the diagnosis of difficult pneumonias in compromised patients.[1-7]

We describe herein seven patients suspected of having a pulmonary infection in whom a specific etiologic diagnosis was attained by TNA. Four case histories illustrate the wide etiologic spectrum encountered, the timing of the procedure, and other potential uses of TNA.

THE METHOD OF TRANSTHORACIC NEEDLE ASPIRATION

The technique utilized is similar to that outlined by Sagel.[8] After pre-medication with meperidine and atropine and cleaning the skin with betadine, the lung lesion is visualized under fluoroscopy. A small skin incision is made through which an 18 gauge spinal-type needle is advanced towards the lesion with the aid of intermittent image intensification. When the lesion is reached, the stylet is removed and a syringe with 2 ml of sterile normal saline is attached to the needle hub. Under constant suction, the needle is advanced into the lesion with clockwise and counter-clockwise rotations and then withdrawn from the thorax.

Lung aspirates were submitted for microbiologic and histologic processing by the clinical laboratory.

RESULTS

Table 1 shows clinical highlights of seven patients with pulmonary infection diagnosed by transthoracic needle aspiration.

CASE ONE

One month prior to admission, a 30 year old white male was admitted to another hospital because of a methadone overdose and aspiration pneumonia. The patient had residual encephalopathy and was placed in a nursing home, but soon after referred to Wm. Jennings Bryan Dorn Veterans' Hospital because of tachypnea and high fever. On admission the patient appeared malnourished, acutely ill and in deep stupor. His temperature was 104°F and the respirations were 40 per minute. Pneumonia was diagnosed clinically and confirmed by a chest radiogram which disclosed a soft tissue density in the right suprahilar region without an air-fluid level (Fig. 1). Fluoroscopy suggested the non-vascular nature of the mass and a Gallium scan showed accumulation of the tracer in the mid-thoracic region. A bronchoscopy was unrewarding. Sixty-nine days after admission and following three consecutive 13 day courses of penicillin G, two million units IV every four hours, naficillin 1 gram IV every four hours and cefoxitin 1 gram IV every four hours without improvement, TNA of the lung mass was performed. Thick, yellow-green

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Table I
SALIENT FEATURES OF PATIENTS UNDERGOING TRANSTHORACIC NEEDLE ASPIRATION

Patient	*Age*	*Chest Film*	*Clinical Diagnosis*	*Diagnosis by needle aspiration*	*Outcome*
1	30	Right suprahilar mass	Lymphoma	Anaerobic abscess	Survived
2	40	Right upper lobe Infiltrate	Pneumococcal pneumonia	Blastomycosis	Survived
3	40	Consolidation and cavitation left lower lobe	Necrotizing pneumonia	Necrotizing anaerobic pneumonia with abscess (Bacteroides, Fusobacterium)	Survived
4	30	Left upper lobe	Fungal infection	Staphylococcus aureus pneumonitis and abscess	Survived
5	65	Bilateral infiltrates, left upper lobe density	Hematogenous pneumonia	Tuberculosis, aerobic Gram negative pneumonitis	Died
6	60	Right lower lobe Infiltrate	Neoplasm	Adenocarcinoma Streptomyces griseus	Survived
7	44	Right middle lobe abscess	Aspiration pneumonia	Anaerobic Gram negative rods*	Survived

* A final identification was not made

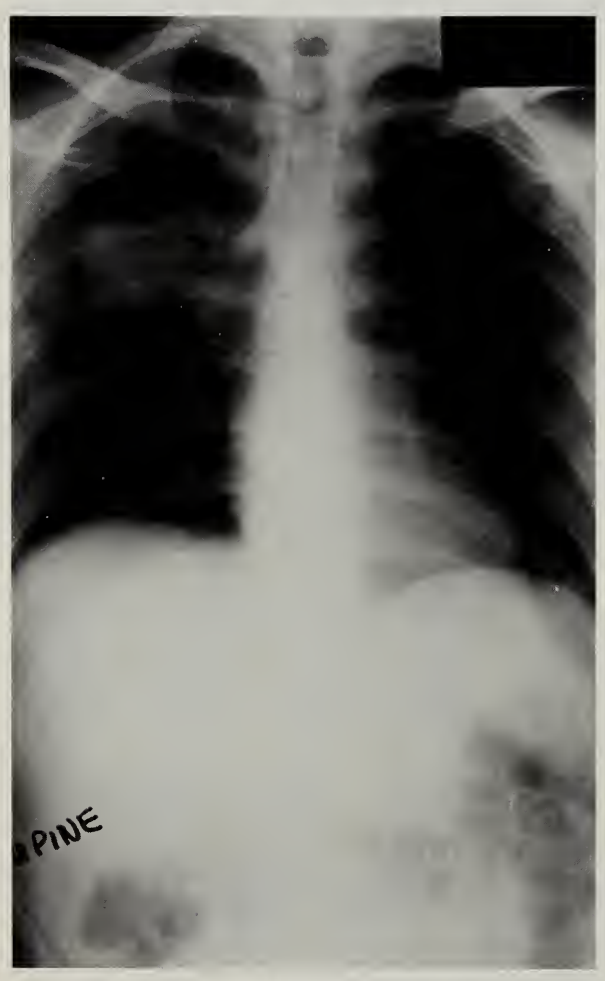

FIGURE 1 — Round, well circumscribed mass in the right upper lung field (supine).

creamy pus was aspirated which showed numerous neutrophils and Gram positive cocci. Aerobic cultures were negative but anaerobically, Bacteroides fragilis and Veillonella species were isolated. Clindamycin 450 mg IV every six hours and metronidazole 250 mg PO TID were given for 20 days. A repeat chest film showed marked resolution of the mass. During this time the patient received intensive physical therapy and by discharge he was alert, able to sit up and communicate verbally.

Comment

Because of the seemingly irreversible nature of the hypoxic encephalopathy suffered by this patient, an open thoracotomy was not undertaken. Despite the patient's inability to cooperate, a transthoracic needle aspiration was successfully performed without complications and a definite diagnosis of anaerobic lung abscess was secured, leading not only to the cure of his infection but also to improvement of the patient's overall condition.

CASE TWO

This 40 year old white male was well until two weeks prior to admission when he began feeling unusually tired in the afternoons. Seven days before admission the patient vomited several times, noticed a low grade fever (99°F) and had

occasional cough productive of orange sputum. Three days later, a chest film showed a right upper lobe infiltrate (Fig. 2). The patient had no pets but used to hunt occasionally. Physical examination was remarkable for the presence of dullness, increased fremitus and bronchovesicular breathing in the right apex with some early inspriatory rales. The WBC was 23,300 with 75% neutrophils, 5% bands, 10% lymphocytes and 10% monocytes, the Gram stain of the sputum showed a mixed flora with polymorphonuclear cells. The sputum culture was normal. Blood and urine cultures were sterile and sputum smears for fungi and acid fast organisms were negative. Treatment failed to produce any improvement. Ten days after admission, a TNA was performed; this was complicated by minimal hemoptysis. A few milliliters of thick, whitish, cheesy material was obtained which showed rare white cells on Gram stain without organisms. The cell block disclosed a few histiocytes, one giant cell and several "watch-glass" appearing fungal bodies with hyaline outlines (Fig. 3). A wet mount of the sputum showed single budding yeasts with wide necks and thick refractile walls highly suggestive of Blastomyces. However, a Gram stain of the same sputum sample failed to show any of the above forms. At this point, amphotericin B was started. Blastomyces dermatitidis was cultured from the lung aspirate but not from sputum or urine (C. albicans was isolated from these two sites). Of note, complement fixing antibodies for Blastomyces dermatitidis were not present in three consecutive serum samples and only one immunodiffusion band of questionable identity against B dermatitidis was present in the second sample. After treatment with almost 2 grams of amphotericin B, the patient was feeling well and the chest film showed advanced resolution of the infiltrate.

Comment

The definitive diagnosis of blastomycosis rests on the isolation of the organism from clinical samples. Serologic studies are unreliable and most of the pediatric and adult cases are seronegative as was the present case. However, sputum cultures are positive for B. dermatitidis in a majority of cases. A diligent search for fungal elements in the sputum was not undertaken in the present case until after the preliminary results of the transthoracic aspiration were known

FIGURE 2 — Dense, homogeneous right upper lobe infiltrate with irregular margin, upright.

FIGURE 3 — Cell block of material obtained by transthoracic needle aspiration showing non-budding yeast with thick cell wall and multiple nuclei within the shrunken cytoplasm. PAS stain; x 1,000.

since blastomycosis had not been suspected. Although organisms highly suggestive of B. dermatitidis were then seen in a KOH preparation of the sputum, only C. albicans was isolated from this site. Therefore, the lung aspirate initially suggested the etiology and subsequently provided the mycologic diagnosis and an isolate for sensitivity testing.

CASE THREE

A 40 year old male developed a dry cough and left sided pleuritic chest pain two days before admission and on the day of admission became short of breath. There was no history of seizures, loss of consciousness, vomiting or alcohol intake. Physical examination disclosed a well developed, obese black male complaining of left sided chest pain. His temperature was 101°F and lung auscultation revealed decreased breath sounds at the left base. The WBC was 10,400 with 63% neutrophils and 14% bands. Initial chest film showed a small infiltrate in the left lower lobe. Because of a history of anaphylaxis with penicillin, oral erythromycin was begun. However, three days after admission a chest roentgenogram showed consolidation of the lower lobe and a small left pleural effusion. No fluid was obtained by thoracentesis except a few drops of blood which were culture negative. Sputum, urine and blood cultures were unrewarding. Erythromycin was stopped and Vancomycin 1 gram IV every 12 hours plus tobramycin 80 mg IV every eight hours were given for nine days. Again, there was no clinical improvement and repeat chest films showed cavitation with an air-fluid level (Fig. 4). Twelve days after admission, TNA of the left lower lobe abscess produced 3-4 ml of a thin, yellowish-greenish, extremely foul smelling pus. The Gram stain showed numerous pus cells, Gram negative bacilli and Gram positive cocci, and B fragilis and Fusobacterium nucleatum were cultivated. Vancomycin levels were 35 μg per ml in serum and 1.9 μg per ml in the abscess fluid. Antibiotics were then changed to clindamycin 600 mg IV every six hours and metronidazole 250 mg TID for 16 days, followed by oral clindamycin alone for 12 days. On the sixth day of therapy the patient developed left sided empyema which necessitated the introduction of a chest tube for drainage. Clinical and radiological improvement were fast and impressive with only a residual left pleural scar upon discharge.

Comment

This patient had a progressive pleuro-pulmonary necrotizing infection and failed to respond to broad spectrum antibiotic therapy. The pressure to select the proper treatment was magnified by the history of anaphylactic reaction to penicillin. A mixed anaerobic infection was diagnosed via TNA, which also allowed the determination of the concentration of vancomycin in the abscess fluid. Although active against Gram positive anaerobes, vancomycin is without effect against Gram negative bacteria, aerobic or anaerobic. Hence the uninhibited growth of Bacteroides and Fusobacterium in spite of almost 2 μg per ml of vancomycin in the abscess fluid, which inhibited the Gram positive cocci seen on the smear.

FIGURE 4 — Consolidating infiltrate of left lower lobe and an air fluid level in mid-field (located in the superior segment of the lower lobe as shown by the lateral film).

CASE FOUR

A 65 year old white male was found to have a widened posterior mediastinum and a right parahilar mass in April 1979. Bronchoscopy and later, thoracotomy were nondiagnostic and bronchial washing was negative for acid fast bacilli on smear and culture. Because of chronic headaches and multiple body aches, the patient was rehospitalized. Urinary frequency, urgency and hematuria were elicited, and Proteus mirabilis was recovered from both urine and blood.

However, the patient left the hospital prematurely and did not receive adequate antibiotic therapy. Thirteen days later, on July 16, 1979, the patient returned complaining of temporal headache, dysuria and multiple body aches. A diagnosis of Polymyalgia rheumatica was entertained and the patient started on 60 mg prednisone daily. Two sputums and bronchial washings were again negative for acid fast bacilli. Blood and urine cultures revealed Proteus mirabilis and repeat chest films showed bilateral, diffuse nodular infiltrates in addition to the left upper lobe density (Fig. 5). Physical examination at this time disclosed a chronically ill, confused male with spotty alopecia, fundal hemorrhages and exudates, oral mucosal ulcerations, bronchovesicular breath sounds, hepatosplenomegaly and generalized purpura. Smears of a needle aspirate from the left upper lobe obtained on day 26 showed Gram negative and acid fast bacilli, identified in culture as P. mirabilis and Mycobacterium tuberculosis. In spite of prompt, aggressive antituberculosis and anti-Proteus therapy, the patient died seven days later. An autopsy was not performed.

Comment

This patient with recurrent Proteus bacteremia developed progressive pulmonary tuberculosis while receiving a high-dose steroid therapy. Diffuse pulmonary infiltrates appeared as a result of infection with both agents. Sputum and bronchial washings were not helpful, and TNA served to establish the diagnosis.

FIGURE 5 — Bilateral, fluffy nodular infiltrates tending to coalesce, not present 15 days previously, and an enlarging denser infiltrate in the left upper lobe.

DISCUSSION

Transthoracic needle aspiration is an effective and reasonably safe procedure for obtaining an etiologic diagnosis in patients with pulmonary infections eluding routine diagnostic efforts. TNA may obviate thoracotomy which is more costly, although complication rates may be similar. We have encountered complications in 12 of 58 patients who underwent needle aspiration of the lung during a two year span. Eight patients developed pneumothorax (two required chest tubes) and four had mild hemoptysis. Air embolism and local bleeding were not found, and there was no associated mortality,[9] but others found a higher incidence of complications.[6] The fact that transthoracic needle aspiration was performed by us an average of 14 days after admission reflects the time consumed in conventional diagnostic studies and in empiric antibiotic trials. Patient number one was exceptional in that the procedure was performed on the 69th hospital day, despite the inability of the patient to cooperate. Needle aspiration on an outpatient basis[10] attests to the simplicity of this technique in experienced hands. Bypassing the upper respiratory tract flora and directly sampling the infected lung, thereby avoiding contaminating organisms, provides diagnostic specificity to the TNA

method. Complications may be reduced in frequency and magnitude by evaluating the patient's bleeding tendency through prothrombin, partial thromboplastin time and platelet count and ascertaining that thoracic surgical back-up was available.

SUMMARY

Transthoracic needle aspiration was decisive in establishing an etiologic diagnosis in seven patients infected with a variety of organisms. The given failure of conventional diagnostic tests was compounded by misleading clinical features and the specific etiologies were eventually recognized and proper treatment instituted with the help of this invasive method. □

ACKNOWLEDGEMENTS

We are grateful to Dr. Arthur F. DiSalvo for the identification of Blastomyces dermatitidis.

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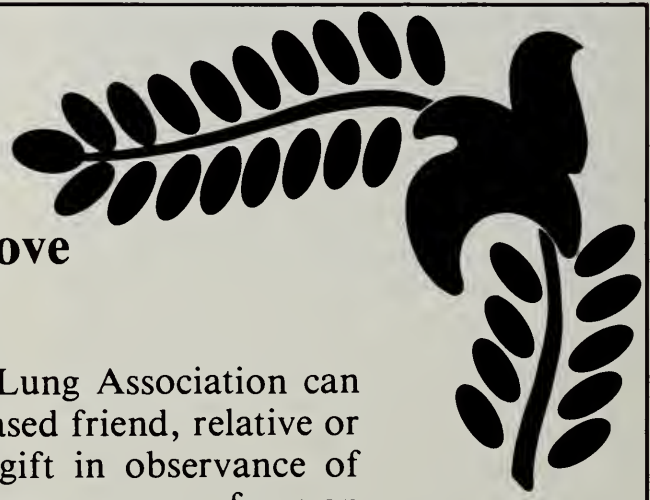
A Memorial Gift Honors Those You Love



Your Memorial Gift to the Lung Association can honor the memory of a deceased friend, relative or associate. It can also be a gift in observance of someone's birthday, anniversary, recovery from an illness, or other special occasions. Send your tax deductible gift to:

South Carolina Lung Association
1817 Gadsden St.
Columbia, S. C. 29201

CARDIAC ARREST: AN AID FOR PHYSICIANS*

DEMETRIOS A. PAPADOPOULOS, M.D.**

Optimal management of a cardiac arrest includes immediate, specific knowledge of many treatment modalities and their dosage recommendations during a stressful situation. An aid in the form of a color-coded, wallet-sized card is presented which provides specific information for the delivery of basic and advanced cardiopulmonary resuscitation. The aid is applicable to patients of all age groups. It provides rapidly accessible emergency information in a highly portable form.

A cardiac arrest is perhaps the most extreme emergency in medicine. The only alternative to immediate, specific therapy is death. The physician must be able to summon sharp clinical skills and recall large amounts of information during a stressful situation. Forgetfulness under stress can be a problem for any physician, especially one who infrequently manages a cardiac arrest or one who treats patients of all age groups for whom varied regimens are required.

I have designed a wallet-sized card to assist the physician in the management of a cardiac arrest. This compact aid outlines basic and advanced cardiopulmonary resuscitation for patients of all ages. For the most part it is organized sequentially to provide information when needed at the various stages of resuscitation. Management differences between pediatric and adult patients are highlighted by different colors.

The information is applicable in the hospital, office, or along the road. Of course, specific treatment will be modified by the availability of medications, technical equipment, and assisting personnel.

* From the Department of Family Medicine, Medical University of South Carolina, Charleston, S. C. 29425.

** Reprint requests to Dr. Papadopoulos, Assistant Clinical Professor, address shown above.

DESCRIPTION OF THE AID

(See card included following article)

The front side of the card contains a logical sequence of considerations and treatments in the immediate management of a cardiac arrest. At the top of the card is space for the phone number of the *local emergency medical service.* Then follows the sequence of *Basic CPR* that is taught by the American Heart Association and American Red Cross.

The card continues with important features of *advanced cardiac life support.* Pharmacologic agents, technical procedures, and endotracheal airway tube sizes are included in a logical order.

The remainder of the front side focuses on dysrhythmias frequently encountered in a cardiac arrest. Under each heading are listed specific treatment modalities and dosage recommendations. These are not meant to be administered simply in succession as listed, for some of these should be repeated before others are utilized.

The back side of the card continues with therapeutic modalities for *ventricular fibrillation* and *ventricular tachycardia.* The next section includes an alphabetical listing of other *useful pharmacologic agents* for certain cardiopulmonary emergencies. *Dopamine, isoproterenol, lidocaine,* and *nitroprusside* are administered as infusions, and I have included time-saving calculations to assist in rapid preparation of the appropriate dilutions. The aid concludes with a *checklist of baseline data* and parameters which are commonly followed during and after the resuscitation.

Both sides of the aid are color-coded: the black print refers to considerations for patients of all age groups, the green print refers to adult recommendations, and the red print to pediatric age groups.

The card is not intended to be used as a "recipe" for CPR, nor are the treatment guidelines purported to be the only correct ones. The physician should be knowledgeable, experienced, and skillful in administering all treatment modalities. The reader is referred to the bibliography which contains many review articles and other pertinent references which served as the literature basis for the aid. Continued study and practice are essential for maintenance of expertise.

SUMMARY

An aid in the form of a wallet-sized card has been designed to assist in the management of the cardiac arrest. The physician can carry it at all times and refer to it easily. Other appropriately trained professionals, e.g. emergency medical technicians, nurses, etc., will also find it useful. The card is also designed to serve as a teaching aid for basic and advanced CPR. Students can refer to it while observing CPR in progress or can use it as a study outline.

The aid should serve only as a supplement to one's own previously determined and well thought out algorithm of treatment.

The card is presently in use by clinical attendings, houseofficers, and medical students at the Medical University of South Carolina in Charleston. Feedback has been extremely favorable and has prompted wider distribution of this information to others in the state. □

ACKNOWLEDGEMENTS

Hiram Curry, M.D.; Peter Gazes, M.D.; Bruce Usher, M.D.; Larry Kibler, M.D.; Ashby Taylor, M.D.; Benjamin Goodman, M.D.; Dilip Purohit, M.D.; Judith Ameriks, M.D.; John Corley, M.D.; Barry Hainer, M.D.; Kay Culp; and Barbara Sexton.

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SCMA NEWSLETTER

September, 1981

** EXECUTIVE COMMITTEE MEETING - AUGUST 19, 1981 **

COMMITTEE APPOINTMENTS

At the August 19, 1981 meeting of the Executive Committee, *President William H. Hunter, M. D.,* appointed the following additional members to various SCMA committees:

Committee on Nursing and Other Non-M. D. Health Professionals:	*Wallace Boyd, M. D.* *Charles Crews, M. D.* *Glenn L. Scott, M. D.*
Perinatal and Maternal Health:	*Sharon Ellis, M. D. (Ex-officio)*
Long Range Planning Committee:	*C. Don Bryant, M. D.* *T. Ravenel Smith, M. D.* *Joseph S. Smith, III, M. D.*
Membership Committee:	*Michael Hoffman, M. D.*
Easter Seal Society for Crippled Children and Adults of S. C.:	*Richard J. Davis, M. D. (Medical Director)* *Francis H. Gay, M. D. (Medical Director Emeritus)*
Continuing Medical Education:	*John W. Brown, M. D.*
State Board of Nursing Study Committee on Continuing Competency:	*Stanmore E. Reed, M. D.*

In addition, all District Directors of the SCMA SCAPELL Program have been appointed to the SCMA Committee on Legislative Activites (See President's Page, this issue of *The Journal*.)

ARMED FORCES MEMBERSHIP SECTION

Following through on a recommendation from *Halsted M. Stone, M. D.,* the SCMA Long Range Planning Committee has proposed the establishment of an Armed Forces Membership Section, similar to that of the Housestaff Physicians' Section. The Executive Committee has approved this proposal, and referred to the Constitution and Bylaws Committee the task of establishing the appropriate language for the SCMA Constitution and Bylaws to create such a Section commensurate with today's Armed Forces. This language will be submitted to

the House of Delegates in May, 1982.

OPERATING PROCEDURES FOR SCMA TREASURER

Harrison L. Peeples, M. D., Treasurer, has been given the authority to clearly define operating controls and procedures with regard to his duties. These procedures will cover cash receipts and disbursements, check distribution and bank reconciliations, investment activities, budget compliance and intercompany transactions. Also, language in the SCMA Bylaws will be changed to reflect the role of Treasurer as an administrator of the duties rather than it being required that he personally perform such duties. It is felt that the proposed controls and procedures, when implemented, will result in more efficient, business-like operations of the Association's financial affairs.

MORE ON TRIPLICATE PRESCRIPTIONS

As reported in the last issue of this *Newsletter,* DHEC's Board has delayed its recommendations on triplicate prescription forms pending a report from a sub-committee of the Governor's Task Force on Prescription Drug Abuse. The SCMA has been asked to provide input into the sub-committee's thinking process. Staff is presently surveying medical societies in those states having or rejecting triplicate prescriptions in order to analyze their effects where implemented, locate and propose alternatives to a multiple prescription process, and report these findings to the sub-committee. SCMA's Council will review and comment on survey results before they are submitted to the sub-committee.

MINIMUM STANDARDS FOR X-RAY EQUIPMENT OPERATORS

The Omnibus Budget Reconciliation Act, signed recently by *President Reagan,* included development of *MINIMUM STANDARDS FOR X-RAY EQUIPMENT OPERATORS.* The Secretary of the Department of Health and Human Services will have one year to develop these standards, and each state will have three years to implement them. *The SCMA has the opportunity to provide input on this matter to DHEC, and staff is presently preparing recommendations as to possible SCMA involvement.*

HEALTH PROFESSIONALS RECRUITMENT OFFICE FOR SOUTH CAROLINA

The State Health Planning Council has created a Task Force to develop a health professionals recruitment office for South Carolina. The office is expected to be a non-profit, independent state agency supported by a combination of state funds, foundation grants, and fees paid by hospitals and communities seeking health professionals. The SCMA Executive Vice President has been appointed to represent the Association on this Task Force. Watch for details as they develop.

CAPSULES

Congratulations to *George Dean Johnson, M. D.,* who was approved by the Executive Committee for honorary membership status; and to *Gerald E. Blanchard, M. D.,* awarded affiliate membership status.

PHYSICIAN LISTINGS IN YELLOW PAGES

Problems being reported from physicians throughout the state regarding yellow pages listings of physicians have prompted the SCMA Mediation Committee, chaired by *Boyce M. Lawton, Jr., M. D.,* to review the AMA Code of Ethics with regard to physicians' advertising, and to develop guidelines to recommend to South Carolina physicians. Council will hear a report from this committee during its September meetings, and the guidelines, once developed and approved, will be disseminated to the membership.

MEMBERSHIP REPORT

SCMA membership, as of mid-August, totals 2,316. Broken down as to category, there are 2,073 active members, 68 new members and 175 honorary members. The 2,073 total includes 50 first year physicians paying dues last year but who are exempt from payment for 1981. Resident members total 135, and student members 4.

A concentrated effort is under way to attract more housestaff members and medical school students. The SCMA staff is beginning efforts toward a membership recruitment campaign, similar to that conducted last year, to carry out one of the primary goals established by Council - that of increasing membership this year to 2,300 full, dues-paying members. Staff will work with appropriate Councilors and membership committee members.

All SCMA members are urged to assist in this recruitment effort! Contact your physician colleagues who are not SCMA members and tell them what the SCMA can do for THEM!

MEDICAL/LEGAL INTERPROFESSIONAL CODE

A revision of the Interprofessional Code of Conduct between the SCMA and the S. C. Bar Association has been received for SCMA consideration. The previously approved version by the SCMA was revised at a meeting earlier this year of the S. C. Bar. The SCMA Executive Committee felt that certain of the revisions were confusing with regard particularly to the provision for payment of physicians' bills and the provision for having signators to the Code. *The revised version will be studied by the Commission on Public Affairs and Professional Relations, chaired by U. Hoyt Bodie, M. D., and that group's recommendations will be considered by the full Council in September.*

SCMA AND THE SOUTH CAROLINA MEDICAL BUILDING, INC.

Discussions have been held by the SCMA Executive Committee and members of the Board of the S. C. Medical Building, Inc., regarding the relationships between the two organizations. Stressing its fiscal responsibilities, the Board has proposed certain changes in its arrangements with the SCMA which might allow for more efficient handling of Building Corporation activities. The SCMA Executive Committee is considering the Board's proposals, and will make its recommendations to the full Council in September.

MORE NEWS ON COUNCIL RETREAT

As reported in the last issue of this *Newsletter*, the full SCMA Council will meet for a week-end Retreat at the Isle of Palms Beach and Raquet Club, September 25-27, 1981. Council will consider, in addition to its regular business matters, some of the problems facing the SCMA and the medical profession in South Carolina. In-depth workshops and discussions will cover:

Professional Liability:	*Chairman, Donald G. Kilgore, Jr., M. D. (Chairman, Ad Hoc Committee on Permanent Professional Liability Market)*
SCMA Relationships with the Medical Care Foundation and the Members' Insurance Trust	*Chairman: Euta M. Colvin, M. D.*
SCMA Relationships with the S. C. Institute for Medical Education and Research, SOCPAC, and the S. C. Medical Building, Inc.	*Chairman: Halsted M. Stone, M. D.*
SCMA Relationships with Other Organizations	*Chairman: Leonard Douglas, M. C.*

Other activities planned include a meeting between SCMA Executive Committee members and Department Heads from the School of Medicine at MUSC for the purpose of soliciting the Department Heads' support in promoting SCMA membership among faculty members and housestaff physicians and students.

SOCPAC Board Members Note: A breakfast meeting of the SOCPAC Board is set for Sunday morning, September 27, at 7:30 a.m. Watch for details from SCMA Headquarters.

Council Chairman, Randolph D. Smoak, Jr., M. D., has suggested that county society Presidents in the various areas of the state in which Council meets should be invited to attend to promote and cement better relations between the two organizations and to better acquaint these county societies of Council's activities. The Presidents of Charleston, Colleton and Georgetown Counties have been invited to attend the business session of Council on Friday, September 25, beginning at 1:00 p.m. Similar invitations will be extended to other county societies throughout the year.

MEMBERSHIP COMMUNICATIONS

The SCMA leadership and staff welcomes members' comments regarding the present method of communicating Association news through inserting the *Newsletter, The Legislative Update, and The Continuing Medical Education Calendar* in *The Journal*. Call or write SCMA Headquarters to relay your reactions.

Continuing Medical Education

Fourth Quar
1981
Calenda

John W. Brown, M.D., Ed
Frederic G. Jones, M.D., Chair

Published by the S.C.M.A. Committee on Continuing Medical Education
Post Office Box 11188, Columbia, S. C. 29211

OCTOBER

THURSDAY OCT. 1 11:00 A.M.-3:45 P.M.
DIABETES UPDATE — 1981
COLUMBIA Richland Memorial Hospital Auditorium
Sponsor: USC School of Medicine, Dept. of Medicine; RMH; VA Hospital; Columbia Medical Society; Pfizer Laboratories
Description: This program will present recent advances in understanding and management of diabetes, stressing practical clinical approaches to the patient and considering topics of interest in modern treatment.
Audience: All interested physicians
Contact: Juraj Osterman, M.D., Ph.D., (803) 776-6576
Fee: $10.00
Faculty: Max Ellenberg, M.D., Mt. Sinai School of Medicine; Peter H. Forsham, M.D., University of California Hospitals; Brian R. Tulloch, M.D., The University of Texas Health Science Center at Houston Medical School
CME Credit: 3.5 Hours AMA Category 1
3.5 Hours AAFP Prescribed
3.5 Hours Category 2D American Osteopathic Association

FRIDAY OCT. 2
HEALTH PROFESSIONALS TAKE A LOOK AT HYPERTENSION
CHARLESTON Francis Marion Hotel — Gold Room
Sponsor: College of Pharmacy and Nursing Div. of CME, MUSC
Description: Opportunity to become more knowledgeable about hypertension so that health professionals can provide greater assistance to clients they serve in the course of their daily practice.
Audience: Nurses, Pharmacists, Physicians, Allied Health Professionals, Students
Contact: Edward Hartshorn, Ph.D. (803) 792-3111
Fee: $20.00
Faculty: Charles A. Walton, Ph.D., Barbara Reichbaum, RN, MSN, Edward Hartshorn, Ph.D., Candace C. Walworth, M.D. and Rebecca C. Hurwitz, RN, MSN
CME Credit: ACPE — .7 Hours CEU

FRI. & SAT. OCT. 2 & 3
OCCUPATIONAL MEDICINE IN THE 1980's
CHARLESTON Charleston Sheraton Hotel
Sponsor: Medical College of Georgia and American Occupational Medicine Association
Description: To prepare primary care physicians to provide the increasingly complex health services now needed in the occupational environment.
Audience: Primary Care Physicians
Contact: Ernest B. Altekruse, M.D., (404) 828-4679
Faculty: Various physicians throughout the USA
CME Credit: 16 Hours 35 Minutes AAFP Prescribed

SAT. & SUN. OCT. 3 & 4
ASTHMA 1980's, A CLINICAL SYMPOSIUM FOR THE PRIMARY CARE GIVER
MYRTLE BEACH Myrtle Beach Hilton
Sponsor: St. Charles Hospital, Oregon, Ohio and Asthmanon Foundation
Description: To present a succinct, up-to-date, clinical symposium covering all aspects of the practical management of asthma.
Audience: Primary Care Physicians
Contact: John A. Winder, M.D. (419) 691-0010
Faculty: Various physicians throughout the USA
CME Credit: 7.33 Hours AAFP Prescribed

1ST & 3RD TUESDAY 12:30-1:30 P.M.
TV GRAND ROUNDS IN OBSTETRICS AND GYNECOLOGY
CHARLESTON MUSC Ampitheater, West Wing, Hospital
Sponsor: CME, MUSC
Description: A lecture on a particular subject by a physician, usually an OB/GYN, located in one of the four areas in which the TV Grand Rounds originate. On occasions there will be an interesting case presentation from one of the four areas with discussion of the case by OB/GYN in another area.
Audience: Nurses, FPs, OB/GYNs, and physicians in any one of 37 hospitals involved in CME in the State of SC
Contact: *R. Ramsey Mellette, Jr., M.D., Dean, MUSC (803) 792-4435*
Fee: None
Faculty: Faculty of the MUSC, School of Medicine of USC, Spartanburg General Hospital OB/GYNs and Greenville General Hospital OB/GYNs
CME Credits: 1 Hour AMA Category I

EACH TUES., THURS., & FRI. 8:30 A.M.
OBSTETRICAL AND GYNECOLOGICAL CONFERENCES
CHARLESTON MUSC Clinical Science Building, Room 624
Sponsor: Dept. of OB/GYN
Description: These conferences are given by visiting faculty, local faculty and residents in OB/GYN. They usually concern a clinical OB/GYN subject and are usually about a clinical subject that is of interest to the faculty or house staff members.
Audience: Medical students, house officers and faculty
Contact: Lawrence L. Hester, Jr., M.D. (803) 792-4509
Fee: None
Faculty: House Staff and faculty of the Dept. of OB/GYN
CME Credit: AMA Category I

EACH WEDNESDAY 9:00 A.M.-10:00 A.M.
DIAGNOSTIC IMMUNOLOGY CONFERENCE
CHARLESTON MUSC QD-209 Quadrangle Bldg.
Sponsor: Dept. of Lab Medicine
Description: Clinical Conference for diagnostic immunology case reports and problems in immunology.
Audience: Physicians, doctoral scientists, techs, medical students
Contact: Elena Prevost, SM (ASCP), (803) 792-3937
Fee: None
Faculty: Professional Staff of Diagnostic Immunology
CME Credits: 1 Hour, AMA Category I
(0.1 CEU given by MUSC DCE Non-physician credit)

EACH WEDNESDAY 1:00-2:00 P.M. OCT.-DEC.
CLINICAL MICROBIOLOGY CONFERENCE
CHARLESTON MUSC QD-209 Quadrangle Bldg.
Sponsor: Dept. of Lab Medicine
Description: Clinical microbiology presentation for faculty and staff of division
Audience: Physicians, doctoral scientists, techs, medical students
Contact: Elena Prevost, SM (ASCP) (803) 792-3637
Fee: None
Faculty: Professional staff of Div. of Clinical Microbiology
CME Credits: 1 Hour AMA Category I
(0.1 CEU given by MUSC DCE for non-physician)

EACH WEDNESDAY 3:00-4:00 P.M. OCT.-DEC.
HEMATOLOGY CONFERENCE
CHARLESTON MUSC Hematology Laboratory OB-106
Sponsor: Dept. of Lab Medicine, Div. of Hematology

Description: Clinical presentation of case reports and hematological problems for faculty, residents and staff.
Audience: Physicians, doctoral scientists, techs, medical students
Contact: Elena Prevost, SM (ASCP) (803) 792-3637
Fee: None
Faculty: Professional Staff of Div. of Hematology
CME Credits: 1 hour AMA Category I
(0.1 CEU given by MUSC DCE for non-physician)

EACH THURSDAY 3:00-4:00 P.M. OCT.-DEC.
LABORATORY MEDICINE CASE PRESENTATION
CHARLESTON MUSC, 2 W Amphitheater MUH
Sponsor: Dept. of Lab Medicine
Description: A clinical presentation given to the faculty and staff of the Dept. Lab. Med. by Residents, Faculty and Guest Faculty
Audience: Physicians, doctoral scientists and technologists
Contact: Elena Prevost, SM (ASCP) (803) 792-3937
Fee: None
Faculty: Professional Staff of Lab. Medicine, MUSC
CME Credits: 1 Hour AMA Category I
(Non-physician credit 0.1 CEU given by MUSC DEC)

EACH THURSDAY 10:30 A.M. Through JUNE, 1982
NEUROLOGY GRAND ROUNDS
CHARLESTON MUSC Clinical Science Building 300
Sponsor: Dept. of Neurology, MUSC
Description: Presentation of patient-oriented discussion of neurological disorders, Emphasis upon current state of pathophysiology and therapy.
Audience: Faculty, residents, students, other interested individuals.
Contact: Edward L. Hogan, M.D. (803) 792-3224
Fee: None
Faculty: Subjects and presentations vary each week.
CME Credits: None

WED. OCT. 7 10:00 A.M.-7:30 P.M.
THU. OCT. 8 8:30 A.M.-5:00 P.M.
FRI. OCT. 9 9:00 A.M.-11:45 A.M.
SOUTHEASTERN HIGH BLOOD PRESSURE CONTROL CONFERENCE
NASHVILLE, TENNESSEE Hyatt Regency
Sponsor: Boehring-Ingelheim; Smith-Klein and French; University of Tennessee Center for Health Sciences; Dept. of CME; Dept. of Family Medicine; American Heart Association-Tennessee Affiliate; National Kidney Foundation of Middle Tennessee; Tennessee Academy of Family Physicians; Tennessee Department of Public Health, Div. of Chronic Disease Service; National High Blood Pressure Education Program; and Sandoz Pharmaceuticals
Description: 2½ day workshop covering various aspects of controlling High Blood Pressure
Audience: Physicians, Nurses, Internists, interested health care professionals
Contact: American Heart Association, 101 23rd Avenue North, Nashville, TN 37203 (615) 320-0390
Fee: $30 Regular
$20 Student
$12 additional luncheon tickets (all inclusive)
$35 Late Registration Fee
Faculty: Various outstanding physicians from across the USA
CME Credit: 10.5 Hours AAFP Prescribed (physicians)

WED.-SAT. OCT. 7-10
FIFTH ANNUAL EDUCATIONAL CONFERENCE ON WORKMEN'S COMPENSATION
MYRTLE BEACH Landmark Resort Hotel
Sponsor: The South Carolina Industrial Commission
Audience: Physicians
Contact: Mr. John E. Nabors, Executive Director, S. C. Industrial Commission, (803) 758-3880
Fee: $75.00
Faculty: The Governor of South Carolina, Richard W. Riley; The Honorable T. M. Nelson, Chairman, S. C. Industrial Commission; Various S. C. Industrial Commission Commissioners; Attorneys; Physicians, The Workmen's Compensation Legislative Committee; and The Honorable Forest Shuford, Chief Deputy, N. C. Industrial Commission.
CME Credit: 5 Hours AMA Category I

THURSDAY OCT. 8 12:30-2:00 P.M.
MANAGEMENT OF CHRONIC PAIN
ANDERSON Young Memorial Auditorium
Sponsor: Anderson Memorial Hospital and McNeil Pharmaceutical
Description: A discussion of the management of chronic pain by an authority on this subject.
Audience: Physicians and multi-disciplinary
Contact: Frederic G. Jones, M.D., (803) 261-1109
Fee: None
Faculty: Ronald J. Dougherty, M.D.
CME Credit: 1 Hour AMA Category I

FRIDAY OCT. 9 ALL DAY PROGRAM
CANCER AND THE FAMILY PHYSICIAN
ANDERSON Young Memorial Auditorium
Sponsor: Anderson Memorial Hospital's Family Practice Center
Description: An overview of current issues for Family Practice Physicians who care for patients with cancer.
Audience: Family Physicians
Contact: Larry Atkinson, M.D., (803) 261-1209
Fee: $15 Registration
$ 5 Residents
Faculty: John Long, M.D.; Mr. Solomon Lucas; Earl Metz, M.D.; and Patrick Mullen, M.D.
CME Credit: 8 Hours AMA Category I
8 Hours AAFP Prescribed

FRI.-SUN. OCT. 9-11
CONFERENCE ON RENAL INVOLVEMENT IN COLLAGEN-VASCULAR DISORDER
HILTON HEAD ISLAND Hyatt Hotel
Sponsor: National Kidney Foundation, American Heart Association and University of South Carolina
Description: The basic theme will be Renal involvement in Collagen-Vascular Disease classification, Pathology and Therapy.
Audience: Nephrologists and Pathologists
Contact: William Foster, (803) 256-6133
Fee: $175.00
CME Credit: 11 Hours AMA Category 1

FRI.-SUN. OCT. 9-11
THE S. C. RHEUMATISM SOCIETY FOURTH ANNUAL SCIENTIFIC SESSION AND MEETING
ASHEVILLE, NC Grove Park Inn
Sponsor: S. C. Rheumatism Society
Description: To bring updated information to the Practicing Physicians on selected topics of Rheumatic Diseases.
Audience: Primary Care Physicians
Contact: Jeffrey G. Lawson, M.D. (803) 235-8396
Faculty: Physicians from Georgia, Florida and South Carolina
CME Credit: 7.5 Hours AAFP Prescribed

SAT. & SUN. OCT. 10 & 11
FOURTH ANNUAL SCIENTIFIC SESSION AND MEETING OF SOUTH CAROLINA RHEUMATISM ASSOCIATION
ASHEVILLE, NC Grove Park Inn
Sponsor: South Carolina Rheumatism Association
Description: Focus on joggers and knee injuries, old and new non-steriodal drugs, arthroscopy and various arthritic conductions.
Audience: Internist, FPs, Orthopedic and other interested physicians
Contact: Jeffrey G. Lawson, M.D., (803) 235-6396
Fee: $25.00
Faculty: Normann Gottlieb, M.D. and Stephen Hunder, M.D.
CME Credits: 7.5 Hours, AMA Category 1
7.5 Hours, AAFP Prescribed

TUESDAY OCT. 13 8:30 A.M.-12:30 P.M.
"STRESS FACTORS IN PATIENT CARE"
COLUMBIA The Forum, William S. Hall Psychiatric Institute
Sponsor: William S. Hall Psychiatric Institute
Description: The goal of this program is to reach an awareness of the stress factors involved in patient care.
Audience: Psychiatrists, family practitioners, internists, child psychiatrists
Contact: Joe E. Freed, M.D. (803) 785-7425
Fee: None
Faculty: O'Neill Barrett, Jr., M.D.; John C. Duffy, M.D.
CME Credit: 3 Hours AMA Category I
3 Hours AAFP Prescribed

TUESDAY OCT. 13 7:30-9:00 P.M.
ANDERSON COUNTY MEDICAL SOCIETY SCIENTIFIC PROGRAM
ANDERSON Young Memorial Auditorium, Anderson Memorial Hospital
Sponsor: Anderson Memorial Hospital
Description: Series of planned scientific programs addressing important issues in medicine.
Audience: Multi-disciplinary and physician
Contact: Frederic G. Jones, M.D., (803) 261-1109
Fee: None
CME Credit: 1.5 Hours AMA Category I
1.5 Hours AAFP Prescribed

TUE.-THU. OCT. 13-15
NEXT STEPS IN IMPLEMENTING QUALITY APPRAISAL/ACTION PLANS IN HOSPITALS
CHARLESTON HCN studio (to be televised live to 30 member hospitals in SC)
Sponsor: Health Communications Network, Div. of CME, MUSC
Description: JCAH requirements in area of quality assurance have caused this topic to be perceived as the top priority need by health professionals in SC
Audience: Primary Care Physicians
Contact: R. Ramsey Mellette, Jr., M.D., (803) 792-4435
CME Credit: 9 Hours AAFP Prescribed

WED.-SAT. OCT. 14-17
THIRD ANNUAL HILTON HEAD SYMPOSIUM ON THE CLINICAL MANAGEMENT OF DIABETES AND ENDOCRINE DISORDERS
HILTON HEAD Hilton Head Inn & Villas
Sponsor: The School of Medicine, Medical College of Georgia; The College of Medicine and the Division of Continuing Education, Medical University of South Carolina and the CSRA Diabetes Education Association
Audience: Physicians
Contact: Edward D. Bransome, Jr., M.D., Department of Medicine, Medical College of Georgia, Augusta, GA. 30912
Fee: $245.
Faculty: Various outstanding physicians from across the USA
CME Credit: 16.5, AMA Category I
16.5, ACCME

TUESDAY OCTOBER 20
NONARTICULAR RHEUMATISM
ANDERSON Anderson Family Practice Center
Sponsor: Dept. of Family Practice, Anderson
Description: The department recognizes the need to acquire CME credit and hopes to maximize the opportunity to do so locally.
Audience: Primary Care Physicians
Contact: Mark A. Clark, M.D. (803) 261-1209
CME Credit: 1 Hour AAFP Prescribed

WED.-SUN. OCTOBER 21-25
SECOND ANNUAL HILTON HEAD GENERAL MEDICINE CONFERENCE
HILTON HEAD ISLAND Hilton Head Inn
Sponsor: Beth Israel Hospital and Geriatric Center
Description: Various topics on different diseases such as arthritis, cerebrovascular disease, coronary artery disease, etc.
Audience: Primary Care Physicians
Contact: Bernard A. Karshmer, M.B.A. (303) 629-5333
Faculty: Various outstanding physicians
CME Credit: 20 Hours AAFP Prescribed

THU. & FRI. OCT. 22 & 23 8:15 A.M.-4:30 P.M.
THIRD ANNUAL NEONATAL NURSING CARE CONFERENCE
SPARTANBURG Sheraton International Hotel
Sponsor: AHEC, MUSC, and Dept. of Medical Education, Spartanburg General Hospital
Description: To provide the nurse with information about current trends in the care and treatment of the neonatal infant.
Audience: RN's, LPN's, other health care professionals
Contact: Lee Caston, RN, Nursing Education Coordinator (803) 563-6648
Fee: $45.00 (includes buffet lunches ($23.00/one day)
Faculty: Joan E. Hodgman, M.D.; Tom L. Austin, M.D.; Sami Elhassani, M.D.; Mohan Rao, M.D.; Harold Rubel, M.D.; K. Wall, RN, MSN; Linda Anderson, RN, MSN; Fran Hansen, RN, BSN.
CME Credit: To be Announced

FRI. & SAT. OCT. 23 & 24
NORTH AND SOUTH CAROLINA OTOLARYNGOLOGY AND MAXILLOFACIAL SURGERY FALL MEETING — 1981
MYRTLE BEACH Myrtle Beach Hilton Hotel
Sponsor: MUSC College of Medicine, Dept. of Otolaryngology, North and South Carolina Otolaryngology and Maxillofacial Surgery Society and the Div. of CME, MUSC
Description: (1) Developmental abnormalities of the neonatal airway; (2) nasal reconstruction; (3) chronic middle ear surgery; (4) surgery of base and skull lesions; (5) stapes surgery
Audience: Otolaryngologists from North and South Carolina
Contact: Warren Y. Adkins, M.D. (803) 792-3531 or
A. Frank Weir, Jr., M.D. (803) 582-2900
Fee: $200.00
Faculty: Gabriel F. Tucker, M.D.; Charles W. Gross, M.D.; James L. Sheehy, M.D.; Warren Y. Adkins, M.D.; J. David Osguthorpe, M.D.
CME Credits: 8 Hours, AMA Category I

SUN.-FRI. OCT. 25-30
CRITICAL DECISIONS — THE EMERGENT PATIENT
HILTON HEAD Hyatt at Palmetto Dunes
Sponsor: Doctor's Essential Services, Inc.
Audience: Primary Care Physicians
Contact: D. Craig Dennis, M.D., (415) 638-3979
CME Credit: 25 Hours AAFP Prescribed

THURSDAY OCT. 29 12:30-1:30 P.M.
ANDERSON MEMORIAL HOSPITAL GRAND ROUNDS
ANDERSON Young Memorial Auditorium
Sponsor: Anderson Memorial Hospital
Description: Clinically oriented cases are presented monthly that have been selected for invited clinicians to discuss.
Audience: Physician and multi-disciplinary
Contact: Frederic G. Jones, M.D., (803) 261-1109
Fee: None
Faculty: Varied
CME Credit: 1 Hour AMA Category I

NOVEMBER

THU.-SUN. Nov. 5-8
33rd ANNUAL SCIENTIFIC ASSEMBLY AND MEETING OF THE SC CHAPTER, AMERICAN ACADEMY OF FAMILY PHYSICIANS
CHARLESTON Sheraton Charleston Hotel
Description: Lectures and demonstrations on Pediatrics, Orthopedics, Cardiology, Rheumatic Disease.
Audience: Primary Care Physicians
Contact: Margaret Turner (803) 288-6647
Fee: $175
Faculty: Various outstanding physicians
CME Credit: TBA

MON.-FRI. NOV. 9-13
HILTON HEAD ENDOCRINOLOGY AND INFERTILITY CONFERENCE
HILTON HEAD ISLAND Hilton Head Inn
Sponsor: Beth Israel Hospital and Geriatric Center
Description: Topics on Ontogeny, disorders of Ovulation, infertility, menopause, and Endocrinology of Pregnancy.
Audience: Primary Care Physicians
Contact: Bernard A. Karshmer, M.B.A. (303) 629-5333
Faculty: Various outstanding physicians
CME Credit: 20 Hours AAFP Prescribed

TUESDAY NOV. 10 7:30-9:00 P.M.
ANDERSON COUNTY MEDICAL SOCIETY SCIENTIFIC PROGRAM
ANDERSON Young Memorial Auditorium, Anderson Memorial Hospital
Sponsor: Anderson Memorial Hospital
Description: This series of planned scientific programs addresses important issues in medicine.
Audience: Multi-disciplinary and physician
Contact: Frederic G. Jones, M.D., (803) 261-1109
Fee: None
CME Credit: 1.5 Hours AMA Category I
1.5 Hours AAFP Prescribed

FRI.-SUN. NOV. 13-15
5th ANNUAL S. C. THORACIC SOCIETY CONSECUTIVE CASE CONFERENCE
KIAWAH ISLAND
Sponsor: S. C. Thoracic Society and S. C. Lung Association
Description: Consecutive Case Conference, Pembine Type.
Audience: Physicians
Contact: Herman F. Allen, (803) 254-2711
Fee: $20.00 Thoracic Society Members
$25.00 Non-Members
Faculty: Guest Speaker; Gordon F. Murry, M.D., School of Medicine, Chapel Hill, NC
CME Credit: To be Announced

THURSDAY NOV. 19 12:30-1:30 P.M.
ANDERSON MEMORIAL HOSPITAL GRAND ROUNDS
ANDERSON Young Memorial Auditorium
Sponsor: Anderson Memorial Hospital
Description: Clinically oriented cases are presented monthly that have been selected for invited clinicians to discuss.
Audience: Physician and multi-disciplinary
Contact: Frederic G. Jones, M.D., (803) 261-1109
Fee: None
Faculty: Varied
CME Credit: 1 Hour AMA Category I

TUESDAY NOV. 24 6:30 P.M.
"CHILD ABUSE AND WIFE ABUSE"
FLORENCE Florence Country Club
Sponsor: Pee Dee Area Health Education Center
Description: Lecture
Audience: Physicians, Nurses
Contact: Roger Sealy, (803) 667-2385
Fee: None
Faculty: Pascal Spino, M.D., Greensburg, PA
CME Credit: 1 Hour AMA Category I

DECEMBER

WED.-SAT. Dec. 2-5
HONOLULU, HAWAII Hyatt Regency Hotel
Sponsor: The University of SC School of Medicine
Description: To acquaint FP's with new developments in the behavioral medicine area and the specific objective is to transfer such knowledge into practical applications for the FP.
Audience: Primary Care Physicians
Contact: O'Neill Barrett, M.D., (803) 765-6563
Faculty: USC School of Medicine, MUSC Div. of CME
CME Credit: 16 Hours AAFP Prescribed

FRI.-SUN. DEC. 4-6
CARE OF THE CRITICALLY ILL OR INJURED PATIENT
CHARLESTON Sheraton Charleston Hotel
Sponsor: MUSC
Description: To focus on the needs of physicians who are frequently responsible for care of patients who have life-threatening illnesses or injuries.
Audience: Primary Care Physicians
Contact: Joseph S. Redding, M.D., (803) 792-2346
Faculty: MUSC Faculty, guest physicians from NC and GA
CME Credit: 16 Hours AAFP Prescribed

TUESDAY DEC. 8
HYPERTENSION — COMPLIANCE AND EDUCATION IN THE HYPERTENSIVE
GREENVILLE Greenville General Hospital
Sponsor: Family Practice Residency Program, Greenville
Description: Case presentations and discussions of management and treatment of hypertension and hypertensive problems.
Audience: Primary Care Physicians
Contact: P. S. Snape, M.D. (803) 242-7831
Faculty: Michael Moore, M.D., Consultant, Bowman Gray School of Medicine
CME Credit: 5 Hours AAFP Prescribed

THURSDAY DEC. 17 12:30-1:30 P.M.
ANDERSON MEMORIAL HOSPITAL GRAND ROUNDS
ANDERSON Young Memorial Auditorium
Sponsor: Anderson Memorial Hospital
Description: Clinically oriented cases are presented monthly that have been selected for invited clinicians to discuss.
Audience: Physician and multi-disciplinary
Contact: Frederic G. Jones, M.D., (803) 261-1109
Fee: None
Faculty: Varied
CME Credit: 1 Hour AMA Category I

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GUNSHOT WOUND OF THE HEAD: A FORTUNATE OUTCOME

WILLIAM H. HUNTER, M.D.*

CASE REPORT

A 26 year-old female entered the Clemson Medical Clinic with the chief complaint, "I've got something in my head and I want you to x-ray it." There was a history of a gunshot wound to the face eight years previously, and she had spent eighteen days in the Greenville General Hospital. While in New York five years ago she was walking down the street, felt dizzy and fainted for about five minutes. She is reported to have lain still. She was hospitalized there for a few days and discharged with Dilantin and Cafergot. Six weeks following this, she had a neurological examination in Greenville which was reported as normal. There had been no further neurological symptoms or signs, nausea, vomiting, fainting or incontinence during this time. E.E.G. was "mildly abnormal with infrequent left temporal theta." She was instructed to continue her Dilantin. She didn't refill this medication and had not sought medical care again until this time.

Physical examination revealed a well nourished and developed young female of stated age in no distress. All twelve cranial nerves were normal in function and there were no sensory, motor or reflex abnormalities. Lateral vision was 175 degrees and visual fields were normal. She was otherwise physically normal. There was a small scar two centimeters below the right eye and some flattening of the right nasolabial fold. The skull films of 1973 in Greenville had been destroyed. Films taken here revealed a bullet in the brain.

The films were seen in consultation with Dr. Carl Bailey, radiologist of Greenville, who described them thusly: "The present location of the bullet is near the midline just above the tentorium and occipital lobe. It could easily be in the falx cerebri by its almost midline location. It is probably just above the venous sinuses. The view that you have does not show the sinus well. There is partial opacification of the right maxillary sinus which would tend to indicate there has been some injury in this area, but bone is not visualized well enough to actually identify bony fragments. It is also difficult with the lack of bone displaced into the calvarium to determine where the bullet left bone, probably in the sphenoid area to reach the present location."

The patient complained of an occasional headache and was given placebo of a multivitamin daily. On return to the clinic one month later she felt that her headaches were "cured". She has been otherwise asymptomatic and without signs of illness since her syncope in New York five years ago. Having known this patient and her family for the past 26 years, I would say her sensorium and mental acuteness is unchanged with this injury.

COMMENTS

We in the United States live in a rather violent culture to which we apparently have become accustomed. Firearms or explosives accounted for 29,173 deaths in the U. S. in 1972; 13,383 were homicides, 13,348 were suicides, and 2,442 were accidents.[1] In 1976 there were 29,553 such deaths; 12,766 were homicides, 14,728 were suicides, and 2,059 were accidents.[2]

Clemedsan, et al[3] found that in dogs the amount of brain damage done by a projectile depended upon the muzzle velocity; for instance, a 7.62 mm bullet at 714-798 m/sec caused less damage than one of 5.56 mm at 810-1000 m/sec. Kirkpatrick and DiMaio[4] in their excellent study on civilian gunshot wounds of the

* 1 Hunter Court, Clemson, S. C. 29631

human brain found the amount of brain damage was not related to the caliber of the bullet but rather to the velocity and yaw of the projectile. The volume of brain damage found in 42 post-mortem examinations interestingly notes that both the largest and smallest tract volumes were made by 38 special ammunition. They arbitrarily divided "high" and "low" velocity at 1500 ft/sec. Various muzzle velocities are: hunting rifles 2000-4100 ft/sec, military firearms 2400-3200 ft/sec, rimfire rifles (.22 shot, long, and long rifle) 1000-1250 ft/sec and hand guns less than 1000 ft/sec.

Penetrating gunshot wounds resulting in craniocerebral injury cause death 40-55% of the time.[5, 6, 7] The medical literature on bullet wounds to the brain was reviewed, with the help of the Medical University of South Carolina library, in an attempt to learn how often such a wound as this patient experienced resulted in so little neurological damage. There was a dearth of information on long follow-up of neurological sequelae. Lillard's 83 cases had 47 survivors of which only seven were followed for over four years; there was no comment on their neurological status. Only 19 of his survivors were judged capable of possible employment but just three were known to be working. Only six of the survivors were known to have had seizure problems. As Dr. Lillard says, "follow up is certainly less than desirable."[7]

The phenomenon of a bullet passing through the right maxillary sinus to near the middle of the brain without discernible permanent neurological sequelae is unusual. The projectile was apparently steel jacketed, of a .32 caliber. The path of the bullet in the head is a matter of interesting conjecture. □

REFERENCES

1. U. S. Division of Vital Statistics: Vital Statistics of the United States, 1973 Vol. II, Part A, Section I. Rockville, Md.: National Center for Health Statistics, p. 182.
2. U. S. Division of Vital Statistics: Vital Statistics of the U. S. 1976 Vol. II, Part A, Section 1. Rockville, Md.: National Center for Health Statistics p. 164.
3. Clemedson, C. J., Falconer, B., Frankenberg, L., et al: Head injuries caused by small-calibre, high velocity bullets. Z Rechtsmed 73: 103-114, 1973.
4. Kirkpatrick, J. B., DiMaio, V.: Civilian Gunshot Wounds of the Brain. J Neurosurg. V. 49 p. 185-198, Aug. 1978.
5. Rainardi, D. C., Samuelson, G. H.: Craniocerebral Gunshot Wounds in Civilian practice. J. Neurosurg. 1970, 32: 647-653.
6. Yashar, D., Jane, J. S., Martanffy, D., White, R. J.: Management of Civilian Craniocerebral Bullet Injuries. Amer. Surg. 1972, 38: 346-351.
7. Lillard, P. L.: Five Year Experience with Penetrating Craniocerebral Gunshot Wounds. Surg. Neurol. 1978, 8: 78-83.

Skull x-rays demonstrating presence of a bullet in an asymptomatic patient (see text).

Editorials

THE NURSING SHORTAGE — WHAT CAN PHYSICIANS DO?

"If the physician extended the same professional courtesy and respect to staff nurses as he extends to his colleagues there would be no problem, said the (nursing) administrators."[1]

The nationwide nursing shortage affects all South Carolina hospitals and, according to nursing educators and administrators, has reach serious proportions. The perceived causes of the shortage are multifactorial. Organized medicine must continue to work with organized nursing toward solutions. Meanwhile, what can individual physicians do?

Asked this question, nurse after nurse replied: "Physicians need to treat nurses as colleagues — they need to treat them with more respect." In the wake of what is now remembered as "the feminist movement" (for want of a better name), most younger women now join most men in their insistence that successful working relationships require mutual respect. When they find mutual respect to be frequently lacking on the wards, they conclude that nursing is not for them.

Although many nursing functions can probably be assumed by other persons — such as medication technicians — we must continue to recognize the essential caring role of the nurse. This role is well-illustrated in a recent account of a prominent surgeon's death, told by his journalist wife:

"Who would have believed . . . that the nurses were so much more important to sick people than the doctors were? Doctors didn't know that at all. As a doctor, he had always thought of the nurse — it astonished him now that he could have been so dense — as a sort of executive secretary. . . .

But now that he was a patient, he could see that the nurses were . . . angels! Angels of mercy!

They were with him constantly, these women figures. . . . They touched him with their hands, flesh to flesh. His succor. His lifesavers. His lifelines.

The male figures were with him for ten minutes a day. They were marginal figures, shadowy and cold. They touched him with instruments. . . . They had condescending airs. . . . He did not like them."[2]

One finds throughout nursing periodicals articles such as "The Politics of Self Esteem" which reflect nurses' problems with some of our attitudes. And if one really wants to know how different physicians are regarded throughout a hospital, just listen closely!

— CSB

REFERENCES

1. "The Nursing Shortage". *The State* newspaper, June 14, 1981.
2. Lear MW: Heart Sounds (New York: Simon and Schuster, 1980), pp 40-41.

PREVENTION OF THE CONGENITAL RUBELLA SYNDROME: PHYSICIAN PARTICIPATION NEEDED!

In this issue of *The Journal,* Dr. Harold Dowda and Sarah J. Robinson of DHEC report results of rubella serologic screening in South Carolina. Of the entire study group, 86 percent were immune to rubella — no improvement from the 85 percent immunity level found in 1968. These data reflect national trends — some 15 to 20 percent of young adults lack protective antibodies against rubella. "German measles" has now become a disease especially of young adults, and the congenital rubella syndrome — affecting offspring of pregnant women with rubella — remains a problem.

The Immunization Practices Advisory Committee of the Centers for Disease Control now recommends that employers of large groups of young adults should strongly consider immunization requirements for employment.[1] Hospitals are now being encouraged to implement rubella screening and immunization policies for employees. Nine outbreaks of rubella among hospital personnel have been reported since 1973. Transmission of rubella to pregnant patients in prenatal clinics has been documented. Rubella screening can be accomplished quite easily, and the rubella vaccine is considered to be both safe and effective.

Hospitals which have attempted to implement such policies have encountered poor participation by physicians.[2] The possibility that physicians can, themselves, contract rubella and then expose pregnant patients to the disease has been documented. Thus, physicians can set an example by having their own rubella antibody titers determined. The congential rubella syndrome is a *preventable* tragedy.

— CSB

REFERENCES

1. Morbidity and Mortality Weekly Reports 29: 629-631, 1981.
2. Orenstein WA, Heseltine PNR, Legagnoux SJ et al: Rubella vaccine and susceptible hospital employees: poor physician participation. JAMA 245: 711-713, 1981.

A NEW INCENTIVE FOR BLOOD DONORS?

An old adage holds that "a bleeding in the Spring is physic for a king." Bloodletting now finds a place in the therapy of only a handful of conditions, and routine phlebotomy finds few if any advocates as a part of the health maintenance of the rest of us. This could change if the hypothesis of a Tampa, Florida pathologist were verified.

Writing in *The Lancet,* Dr. Jerome Sullivan suggests that the protection of premenopausal women from heart disease owes to their freedom from iron overload, compared to men and postmenopausal women. He bases his argument on the cardiotoxicity of excessive iron in the iron storage diseases, on the accumulation of iron in men after adolescence, and on the accumulation of iron in women after the menopause "in rough proportion to the added risk" of heart disease.

The hypothesis is a fascinating one and seems to have been written in a serious vein. Obviously, it would take years to verify and the large-scale experiment of regular phlebotomy in healthy persons would seem to be an exceedingly difficult one to carry out. But imagine the implications for blood banks! Overnight, the problems associated with blood shortages and with commercial blood donors would vanish into medical history!

— CSB

REFERENCE

1. Sullivan JL: Iron and the sex difference in heart disease risk. Lancet 1: 1293-1294, 1981.

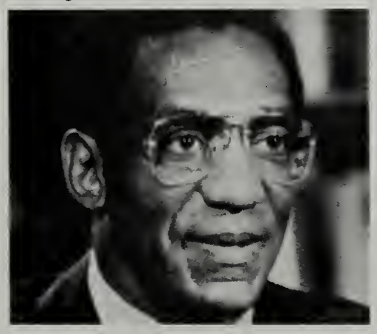
PERPLEXING PULMONARY PROBLEMS

It is probably impossible to complete medical school nowadays without becoming thoroughly versed in the aphorism attributed to the late Willie Sutton, who allegedly told police that the reason why he robbed banks was because "that's where the money is." A practical application of Sutton's Law appears in the description of direct lung puncture for diagnosis by Drs. Arroyo, Gordan, and Postic in this issue of *The Journal*. From a series of 58 direct needle aspiration procedures, they describe seven cases in which the procedure appeared to be of great benefit. Nevertheless, several caveats are in order.

First, the authors note that the complication rate from direct lung puncture may be similar to that from thoracotomy. Since thoracotomy provides more tissue for laboratory studies, one might ask whether thoracotomy might be the *first* procedure in some patients. Secondly, direct lung puncture should be carried out with extreme caution or not at all in patients unable to withstand thoracotomy should this prove necessary to control complications such as hemorrhage. Finally, we should appreciate the several alternatives to direct lung puncture which may provide a diagnosis in many patients — bronchial brushing, transbronchial biopsy, translaryngeal aspiration, and repeated examinations of expectorated sputum. It should be emphasized that Sutton's Law often needs to be tempered by knowledge of which procedures can be accomplished most readily and with the least risk in a particular hospital.

— CSB

Bill Cosby says: "When you learn CPR, you're ready to save lives—anywhere."



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President's Page

OPERATION SCAPELL
THE CALL TO ALL SOUTH CAROLINA PHYSICIANS

The Council of the South Carolina Medical Association, at the request of your President, has authorized the formation of OPERATION SCAPELL. This will be under the aegis of the Legislative Committee, and the spelling out of its acronym explains its function — South Carolina Auxiliary and Physicians Educational Legislative Liaison.

This will be a statewide organization covering South Carolina's 46 counties and involving about one-fourth of our membership and the SCMA Auxiliary, about 600 people. The basic purpose is to educate our profession on legislative matters concerning medicine and to stay in close liaison with our members of the S. C. Legislature where it concerns the health and medical care of our citizens. OPERATION SCAPELL has twelve Districts in the state, and Council asked that the following twelve members of the Legislative Committee be its Directors. I am proud of our profession when I tell you that all twelve accepted immediately.

Greenville Area (Greenville and Laurens Counties): E. Darrell Jervey, M.D.
Spartanburg Area (Spartanburg, Union and Cherokee Counties): G. B. Hodge, M.D.
Columbia Area (Richland, Lexington, Aiken, Fairfield and Newberry Counties): Walt Roberts, Jr., M.D.
Charleston Area (Charleston, Dorchester and Berkeley Counties): Clay Evatt, M.D.
Anderson Area (Anderson, Oconee and Pickens Counties): Kenneth W. Smith, M.D.
Greenwood Area (Greenwood, Abbeville, McCormick, Edgefield and Saluda Counties): Stanley Baker, M.D.
Orangeburg Area (Orangeburg, Barnwell, Calhoun, Bamberg and Allendale Counties): Stewart Funderburk, M.D.
Sumter-Clarendon Area (Sumter, Clarendon and Lee Counties): John J. Britton, M.D.
Florence-Darlington-Marion Area (Florence, Darlington, Marion, Dillon, Williamsburg and Marlboro Counties): Hunter Stokes, M.D.
Myrtle Beach-Georgetown Area (Georgetown and Horry Counties): James W. Forrester, M.D.
Beaufort-Jasper Area (Beaufort, Jasper, Colleton and Hampton Counties): Arthur Jenkins, M.D.
Rock Hill Area (Lancaster, York Kershaw, Chesterfield and Chester Counties): Halsted M. Stone, M.D.

The organization will consist of a Chairman for each county, and in each county a Legislative Committee for each member of the Legislature residing therein. Needless to say, this latter local committee is the most vital and important. There will be members of the Auxiliary at all levels of the operation. Many of you will be hearing from your District Director or County Chairman in the near future. If you care for your profession, then you must respond positively. If you are really interested, and you should be, then call your District Director and offer your help.

"Tempus Fugit".

WILLIAM H. HUNTER, M.D., *President*

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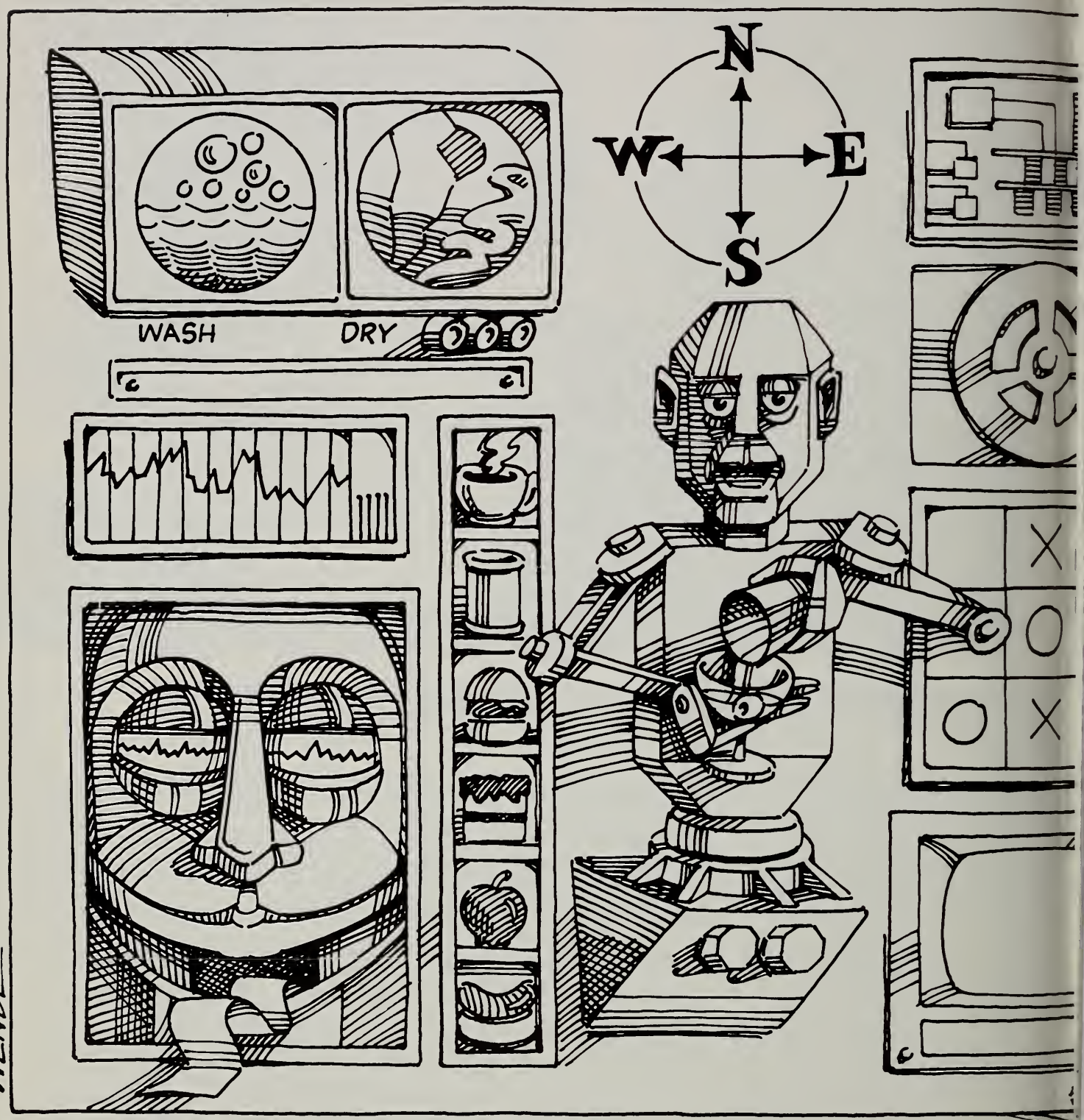

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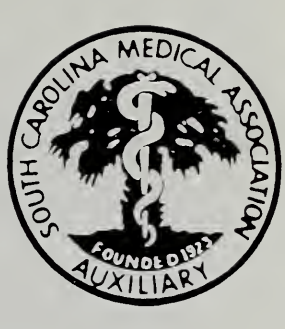

IS YOUR LIFESTYLE WORTH DYING FOR?

Stress, according to Robert S. Eliot, M.D., is both friend and foe. Properly used, it is essential to a healthy life. But like the strings of a violin — too loose, and you won't like the music; too tight, and they might break.

Managing stress is the 1981-82 theme of the highly successful AMA Auxiliary Shape Up for Life campaign. Managing stress is an essential aspect of total fitness, since unrelieved stress can aggravate or prolong physical problems.

Everyone is under stress all the time. Hans Selye, M.D., a pioneer in the field of stress management, has written that the only freedom from stress is death. In his book *Stress without Distress,* Dr. Selye wrote that the body reacts to stress in three stages. First, there is the alarm reaction in which the body recognizes stress and prepares to "fight or flee". Hormones are released which cause changes in the body, such as increased heartbeat and respiration, elevated blood sugar levels and increased perspiration. This burst of energy can be used to run from the stress or face it.

This is followed by the stage of resistance, where the body adjusts to the stress and the signs of the alarm reaction disappear. If the stress is not relieved at this point and the body remains alert, the stage of exhaustion is entered. Continued for any amount of time, this stage of exhaustion, where the resistance level to stress is below normal, can bring on maladies such as allergies, acne, alcoholism, hypertension, migraine headaches, heart irregularity or disease, or mental illness such as depression or nervous breakdown.

Yet stress can be a motivator if used in the right way. In fact, Dr. Eliot advises, "Make stress your best friend. Use it to build your self-esteem. Sometimes when you're stressed you're not satisfied with yourself. Stress can be a powerful beacon, pointing you toward new heights of self-discovery, self-mastery and self-fulfillment."

Many experts feel that we thrive on stress because it makes life more interesting; life would be dull without it. But whether you consider stress friend or foe, you can't have a life completely free of it. The answer is to find ways to manage stress. Here are a few to try.

Learn to flow with problems you can't solve. Clarify your real values. Be a "cold reactor" not a "hot reactor". Communicate with others. Eat right and exercise regularly. Take time to smell the roses. Avoid too many major changes at once. Don't make drugs a substitute for stress management.

It's a fact. Life will never be completely free of stress. The key is to learn to manage it, and make it work for you.

[Robert S. Eliot, M.D., is chairman of the Department of Preventive and Stress Medicine and director of the Cardiovascular Center of the University of Nebraska's Medical Center. Quotes from Dr. Eliot are from an article by Dennis L. Breo in the May, 1981 issue of FACETS, published by the American Medical Association Auxiliary. Shape Up for Life pamphlets on Stress Management are available from the National AMA Auxiliary. For information on how to obtain them, contact your local county Medical Auxiliary.]

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Indications
Cyclacillin has less in vitra activity than ather drugs in the ampicillin class and its use shauld be canfined ta these indicatians: Treatment af the fallawing infectians:
RESPIRATORY TRACT
Tansillitis and pharyngitis caused by Graup A beta-hemalytic streptacacci
Branchitis and pneumania caused by *S.* pneumaniae (farmerly *D.* pneumaniae)
Otitis media caused by *S.* pneumaniae (farmerly *D.* pneumaniae) and *H. influenzae*
Acute exacerbatian af chronic branchitis caused by *H. influenzae**
*Thaugh clinical impravement has been shawn, bacterialagic cures cannat be expected in all patients with chranic respiratary disease due ta *H. influenzae*.
SKIN AND SKIN STRUCTURES (integumentary) infectians caused by Graup A beta-hemalytic streptacacci and staphylacacci, nanpenicillinase praducers.
URINARY TRACT INFECTIONS caused by *E. cali* and *P. mirabilis*. (This drug shauld nat be used in any *E. cali* and *P. mirabilis* infectians ather than urinary tract.)
NOTE: Perfarm cultures and susceptibility tests initially and during treatment ta manitar effectiveness af therapy and susceptibility af bacteria. Therapy may be instituted priar ta results af sensitivity testing.
Cantraindications Cantraindicated in individuals with histary af an allergic reactian ta penicillins.
Warnings Cyclacillin should only be prescribed for the indications listed herein.
Cyclacillin has less in vitro activity than ather drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious far recommended indications.
Seriaus and accasional fatal hypersensitivity (anaphylactaid) reactions have been reparted in patients on penicillin. Although anaphylaxis is mare frequent following parenteral use, it has accurred in patients on oral penicillins. These reactions are mare apt ta accur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactians wha experienced severe hypersensitivity reactions when treated with a cephalasparin. Befare penicillin therapy, carefully inquire about previaus hypersensitivity reactions to penicillins, cephalasparins and ather allergens. If allergic reaction accurs, discantinue drug and initiate appraprate therapy. Seriaus anaphylactaid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubatian, should also be administered as indicated.
Precautions Pralanged use af antibiatics may pramate avergrawth af nansusceptible arganisms. If superinfectian accurs, take appraprate measures.
PREGNANCY: Pregnancy Categary B. Repraductian studies perfarmed in mice and rats at dases up ta 10 times the human dase revealed na evidence af impaired fertility ar harm ta the fetus due ta cyclacillin. There are, however, na adequate and well-cantrolled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.
NURSING MOTHERS: It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing wamen.
Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untaward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isalated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation af therapy.
As with other semisynthetic penicillins, SGOT elevations have been reported.
As with antibiotic therapy generally, continue treatment at least 48 ta 72 hours after patient becomes asymptamatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recammended to guard against risk of rheumatic fever or glomerulanephritis. In chronic urinary tract infectian, frequent bacteriaglagic and clinical appraisal is necessary during therapy and passibly for several months after. Persistent infection may require treatment far several weeks.
Cyclacillin is not indicated in children under 2 manths af age.
Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dasage level (see DOSAGE AND ADMINISTRATION in package insert).
Dosage (Give in equally spaced doses)

INFECTION	ADULTS	CHILDREN*
Respiratary Tract		
Tonsillitis & Pharyngitis	250 mg q.i.d.	body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d.
Branchitis and Pneumania		
Mild ar Moderate Infections	250 mg q.i.d.	50 mg/kg/day q.i.d.
Chronic Infectians	500 mg q.i.d.	100 mg/kg/day q.i.d.
Otitis Media	250 mg ta 500 mg q.i.d.†	50 ta 100 mg/kg/day†
Skin & Skin Structures	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Urinary Tract	500 mg q.i.d.	100 mg/kg/day

*Dosage shauld not result in a dose higher than that far adults.
†depending on severity

Wyeth Laboratories
Philadelphia, Pa. 19101

From the State House: LEGISLATIVE UPDATE

At the time of printing of this issue of the Update, the S. C. General Assembly (at the mid-point of its 1981-82 Legislative Session) has introduced some 1,771 legislative bills (608 in the Senate and 1,163 in the House). As a service to the SCMA membership, we are presenting below an encapsuled description of each bill with substantial or potentially substantial impact on the Medical Profession, as well as the status of each bill, and SCMA's official position.

We are presently "watching" 75-100 other bills, but space problems prevent their inclusion here. Four major pieces of legislation supported by the SCMA have passed; two measures of modest SCMA involvement and support have been defeated; four measures opposed by SCMA have been defeated outright (two of which had significant impact on medical practice); and twenty-four measures (twelve supported and twelve opposed by SCMA) with moderate to significant SCMA involvement remain on "pending" status.

Abbreviations used in the following table are:

Senate Medical Affairs - SMA
Senate Banking & Insurance Committee - SB&I
Senate Judiciary Committee - SJC
House Medical, Military and Municipal Affairs - HMA
House Judiciary Committee - HJC
House Labor, Commerce & Industry Committee - HLC&I

LEGISLATIVE TABLE OF BILLS FOR 1981-82

Bill No.	Title/Intent of Legislation	Current Status	SCMA Position
S.512	Mandate referral of certain cases by Optometrists to physicians.	Referred to SMA	No position; currently monitoring
H.2712 S.119	State Supported Medical & Dental Scholarships; obligation to pay back satisfied by service under DHEC, DMH, DMR, Dept./Youth Services or CCI.	H.2712 to HMA; S.119 Passed Senate; Referred to HMA	No position; watch.
H.2551	Pastoral Counselors, Lic. Psychologists, Lic. Social Workers; make communications between patient/ client privileged.	Referred to HJC	No position; watch.
S.312	Require autopsies in death by fire unless waived by Pathologist.	Referred to SMA	No position; watch.
S.431	Bill to add one member each from the House and Senate to DSS Board.	Passed Senate; Referred to HMA	No position; watch.
S.430 H.2692	Bill to add one member each from the House and Senate to DHEC Board.	S.430 passed Senate; referred to HMA. H.2692 referred to HMA	No position; watch.

Bill No.	Title/Intent of Legislation	Current Status	SCMA Position
None	DSS Regulations on reimbursement of hospital-based and teaching physicians would adjust way such physicians are paid with federal funds.	Withdrawn by DSS.	Oppose as original written.
H.2185	Bill to prohibit beer and wine in automobiles except in certain cases.	Referred to HJC	Support.
H.2716	Bill to repeal law allowing regulation of medical laboratories by DHEC.	Passed.	Support.
S.64	Bill to allow State Budget & Control Board to purchase insurance for contents of state-owned eleemosynary hospitals.	Referred to SB&I.	No position; watch
H.2307	Bill to apply helmet laws to persons of all ages--not just 18 and under.	Referred to House Educ. & Public Works.	Support.
H.2391	Bill to establish Medical Examiner Commission; Board made up of Pathologists with proviso for hiring of Pathologists in various counties.	Referred to HJC.	Support.
H.2461	State Appropriations Bill; proviso continuing court screening for mental health patients.	Appropriations Bill passed without this proviso.	Support.
S.550 H.3021	Bills mandating notification to parent or guardian of minor and to spouse of intent to perform an abortion.	S.550 referred to Judiciary Committee; H.3021 referred to HMA	No position; continue to monitor.
H.3030	Identification of Controlled Substance as such when any substance is represented as a controlled substance. (aimed at street sales of drugs)	Referred to HMA.	No position; watch
H.2424 S.568 H.3067 H.3037	Amendments to Administrative Procedures Act to make more difficult to pass regulations when Legislature opposes contents of same.	H.2424 tabled in HJC; S.568 referred to SJ; H.3067 & H.3037 referred to HJC.	Support.
H.2208	Bill to limit terms on State Boards and Commission to two terms or twelve years, whichever is less.	Referred to HJC and reported out favorably; pending on House floor	Support.
H.2850 H.2858	Bills to establish a hospital cost commission.	H.2850 referred to HMA; H.2858 referred to HJC.	Oppose.
H.2606	Bill to re-define practice of Chiropractic and provide for activities prohibited by same.	Referred to HMA.	Support.
H.2659 H.2320	Death with Dignity; bill to allow terminally ill patients to give written consent to not prolong their life.	H.2659 Referred to HMA; H.2320 referred to HJC.	Support.

Bill No.	Title/Intent of Legislation	Current Status	SCMA Position
S.513	Lay-Mid-Wife Regulations by DHEC Board; Would moderately revise regulations allowing for mid-wives to assist in births without presence of physician.	Passed Senate; tabled in House committee.	Oppose.
None	Physician's Assistant Regulations; updating qualifications, training, activities allowed of PA's.	Passed Legislature.	No position; watch.
H.2036	Legislation to Exempt Services Provided solely by a business firm or its employees from Emergency Medical Services regulations (DHEC)	Referred to HMA.	Opposed.
H.2161	Generic Substitution; would liberalize current law by providing two check-offs--one to substitute and one not to substitute.	Referred to HMA and tabled.	Opposed.
H.2044	Bill to allow for the delegation of certain tasks by physicians to unlicensed medical personnel	Passed House with amendments; referred to SMA.	Support, but amend in current form.
S.10	Bill to Regulate Practice of Respiratory Therapists; set up Respiratory Therapy Board, provide for licensing of RT's, penalties, etc.	Referred to SMA	Opposed.
S.1	Bill to Authorize Adoption Agencies to release identity of adopted persons and biological parents under certain conditions.	Passed Senate; referred to HJC.	Opposed.
H.2022	JUA Extension	Passed into law.	Support.
Proposed	Child Restraint in Automobiles Legislation	Proposed.	Support.
S.338	Accupuncture; provide accupuncture be done under supervision of physician and upon referral of same. Board of Medical Examiners to provide qualifications.	Passed Legislature (with SCMA support)	Monitor and work for "corrective" amendments.
S.194	Bill to re-authorize the State Board of Medical Examiners	Passed Legislature. (with SCMA amendments)	Oppose as introduced and amend.
H.2366	Hospital Franchising Act; provide for franchising applications and certificate of need for health care facilities; for review of decisions relating to franchising and make other amendments relating to Health Systems Agency.	Passed Legislature	Monitor; take no position as currently introduced.

Bill No.	Title/Intent of Legislation	Current Status	SCMA Position
H.2372	Bill to prevent discrimination against Podiatrists, Oral Surgeons; mandates health insurance policies provide coverage.	Referred to HLC&I	Oppose
H.2545 H.2540 S.297	Bills to prevent discrimination against Chiropractors; mandate health policies include coverage for Chiropractors the same as for physicians.	H.2545 to HLC&I; H.2540 to HLC&I and tabled; S.297 to SB&I	Oppose
H.2546	Bill to prevent discrimination against Nurses; mandates health policies provide coverage to nurse practitioners in same manner as physicians.	Referred to HLC&I	Oppose
H.2576	Bill to prevent discrimination against Optometrists; mandates health policies provide coverage to Optometrists in the same manner as physicians.	Referred to HLC&I	Oppose
H.2544 H.2732 S.409	Bill to prevent discrimination against Psychologists; mandates health policies provide coverage to licensed Psychologists the same as for physicians.	Bills referred respectively to HLC&I and SB&I	Oppose

* * * * *

Work has begun in earnest on the South Carolina Auxiliary-Physician Educational Legislative Liaison (SCAPELL), a program designed to provide an organized structure to influence legislation by better organization at the grass-roots level. If you have not already begun to get involved, please do so. Call your County Medical Society President or the SCMA Office at 252-6311.

* * * * *

It's not too early to begin thinking about the Doctor of the Day Program at the State House. If you have a specific day you would like to request, please contact the SCMA Offic Remember, notices and forms for the Doctor of the Day Program will be contained in the Update, so watch for these items in upcoming issues.

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LEAD SCREENING IN SOUTH CAROLINA*

EDWARD R. WILLIAMS, DR. P. H.
ARTHUR F. DiSALVO, M.D.

Undue lead absorption and lead poisoning of children is an emerging public health problem in South Carolina. Between the years 1960 and 1970, seventy children were hospitalized in Charleston with a diagnosis of lead poisoning. Eleven cases were fatal.[1] A survey conducted in 1971 by the Department of Health, Education and Welfare found that 41.6% of the children in a deteriorating area of Charleston had elevated blood lead levels.[2] Following this study, the cities of Greenville and Charleston received grants to detect the high risk children in their communities. Shortly thereafter, the Bureau of Laboratories of the Department of Health and Environmental Control (DHEC) developed the capability to support these programs and to provide assistance to physicians of South Carolina in the diagnosis of lead poisoning.

Symptoms of lead intoxication may be absent or range from disorderly classroom behavior to abdominal pain, encephalopathy and convulsions. Four classes of relative risk of lead poisoning have been established based on erythrocyte protoporphyrin (EP) and blood lead determinations as demonstrated in Table 1.[3] Children in Class I are at low risk, those in Class II are at moderate risk and children in Class III are at high risk. Children in Class IV are at urgent risk of lead poisoning and should be evaluated within 24 hours. A lead level of 30 micrograms or greater per deciliter (μg/dl) of blood is considered an ELEVATED BLOOD LEAD LEVEL. A blood lead level greater than 49 μg/dl with compatible symptoms or two blood lead levels of 70 μg/dl without symptoms is considered to be LEAD POISONING.

Table 1
RISK CLASSIFICATIONS FOR ASYMPTOMATIC CHILDREN
(To Reflect Priority for Medical Evaluation from the Screening Results. Not to be used for Diagnostic Purposes.)

Test Results	*Erythrocyte*	*Protoporphyrin (μg/dl Whole Blood)*		
	≤ 49	50-109	110-249	≥ 250
Not done	I	*	*	*
≤ 29	I	Ia	Ia	EPP+
30-49	Ib	II	III	III
50-69	**	III	III	IV
≥ 70	**	**	IV	IV

EPP+ = Erythropoietic protoporphyria — Although rarely, iron deficiency may cause EP elevations to 300μg/dl.
* = Blood lead necessary to estimate risk.
** = Combination of results not generally observed in practice; if observed, retest with venous blood immediately.

The criteria presented in this table were developed by the U. S. Department of Health, Education and Welfare, Public Health Service, Center for Disease Control, Atlanta, Georgia, 1978.[3]

While lead-based paint chips, both interior and exterior, are the most significant source of lead in the young child's environment, several other sources can contribute to undue lead absorption. These include dust and dirt which have been contaminated by lead-based paint and auto

* From the Bureau of Laboratories, South Carolina Department of Health and Environmental Control, Box 2202, Columbia, S. C. 29202.

emissions. Exposure to excessive lead levels in the environment as a result of neighborhood industry may also present a serious health hazard to children. Examples are auto paint shops, battery plants and smelting operations. Finally, even newsprint and canned foods may contribute to the child's exposure to lead. It is important to recognize the variety of sources of lead and the cumulative absorption of this substance.

MATERIALS AND METHODS

Two laboratory procedures are used to determine if a hazardous exposure to lead exists: the Erythrocyte Protoporphyrin (EP) test by fluorometry and the actual measurement of lead in the blood by atomic absorption spectrophotometry. EP levels and blood lead levels measure different aspects of undue lead absorption. EP measures the effect of lead on heme synthesis, while blood lead indicates tissue absorption. The EP levels may be elevated prior to the recognition of symptoms. A moderate elevation of EP also can be associated with iron deficiency anemia.

In this laboratory, screening for excessive lead exposure by the EP test is done prior to performing a blood lead determination. The EP test has the advantages of being substantially cheaper and amenable to performance at the clinic site. Increased EP levels may be indicative of undue lead exposure or anemia. Specimens with elevated EP levels (above 50μg/dl) are examined for lead. In FY 1980, 8,030 blood samples were analyzed by the EP method and 1,440 of these were elevated (18%). Elevated blood lead levels were confirmed in 91% of these specimens (1,309). This represents a finding of elevated blood lead in 16.3% of the patients screened.

The Bureau of Laboratories provided capillary tubes with anticoagulants to collect the samples of venous blood. Each sample was examined in duplicate. Initially (1972), blood lead analyses were performed using the Delves cup atomic absorption procedure. EP testing was added in 1974 and blood lead analysis using an automated atomic absorption furnace was substituted for the Delves cup method in 1980.

RESULTS

During the five fiscal years 1976-1980, 15,063 blood samples were tested for lead (Table 2). Of this number, 25.4% of the children represented had elevated blood lead levels: 18.7% were Class II, 6.0% were Class III and 0.7% were Class IV levels. Numerically, this represents 3,829 children with elevated blood lead levels during these five years. Ninety-eight (98) children had Class IV lead poisoning.

It can be noted that the percentage of children with elevated blood lead levels decreased as the program progressed. This decrease appears to be the result of heightened awareness of the problem, including legislation to protect housing tenants, but more particularly to the expansion of the lead testing program to populations with an expected lower incidence.

Table 3 shows the geographic distribution of the samples submitted for analyses. Sampling sites were chosen on the basis of poulation density, anticipated need and availablity of medical-survey resources. Limited resources necessitated the lowest possible cost per positive case found. Recent statewide surveys indicate that lead poisoning is not restricted to cities, but is also a rural problem.

The original programs concentrated on suspected high-risk areas. This effort was extremely productive, and a number of children were found with elevated blood lead levels. Now, screening is being conducted statewide, resulting in a somewhat lower yield. However, in fiscal year 1980, a statewide yield of 4% elevated blood lead

Table 2
ANNUAL BLOOD LEAD DETECTION RESULTS BY CLASS
FISCAL YEARS 1976-1980

	1976		*1977*		*1978*		*1979*		*1980*		*TOTAL*	
	Number	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Precent*	*Number*	*Percent*	*Number*	*Percent*
Class I	1,337	41.7	801	49.9	1,187	80.0	874	60.9	7,035	96.0	11,234	74.6
Class II	1,360	42.4	596	37.2	222	15.0	442	30.8	202	2.8	2,822	18.7
Class III	472	14.7	190	11.8	67	4.5	106	7.4	74	1.0	909	6.0
Class IV	41	1.2	17	1.1	8	0.5	13	0.9	19	0.2	98	0.7
	3,210	100.0	1,604	100.0	1,484	100.0	1,435	100.0	7,330	100.0	15,063	100.0

Table 3
GEOGRAPHIC DISTRIBUTION OF BLOOD LEAD LEVELS IN SOUTH CAORLINA CHILDREN BY RISK CLASS
FISCAL YEARS 1976-1980

	Charleston		*Greenville*		*Lexington & Richland* **		*Pickens* **		*Others (Statewide)*		*TOTAL*	
	Number	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*
Class I	3,012	57.2	3,001	82.3	1,050	94.9	304	94.1	3,867	81.9	11,234	74.6
Class II	1,573	30.0	595	16.3	49	4.4	18	5.6	587	12.4	2,822	18.7
Class III	634	12.0	46	1.3	7	0.6	1	0.3	221	4.7	909	6.0
Class IV	47	0.8	3	0.1	1	0.1	0	0.0	47	1.0	98	0.7
TOTALS	5,266		3,645		1,107		323		4,722		15,063	100.0

** Samples in FY 79 and 80

levels was significant, and demonstrates a lead-exposure problem exists in South Carolina.

SUMMARY

The Bureau of Laboratories screens specimens submitted for blood lead analysis with the Erythrocyte Protoporphyrin (EP) test because it is more cost effective and provides the additional benefit of detecting iron deficiency anemia. Of 15,063 children screened during the fiscal years 1976-1980, 25.9% had elevated blood lead levels and just under 1% (98 children) had Class IV lead poisoning. □

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OUTCOME OF DIABETIC PREGNANCIES*

KAY F. McFARLAND, M.D.**
M. SHARADA PAI, M.D.
JANICE L. COLEMAN, M.D.

During the last fifty years there has been a steady increase in the perinatal survival of infants of diabetic mothers.[1] This favorable trend reflects both improvement in obstetrical care as well as advances in neonatology. Most recent reports provide data regarding the pregnancy outcome of diabetic patients who are managed by a single team of specialists. Less information is available regarding the current outcome of diabetic pregnancies in general. We report an analysis of the outcome of the pregnancies of all diabetic patients delivered during the past three years at a South Carolina regional hospital. Two different classifications of diabetes in pregnancy are used to determine if pregnancy outcome varies with either the class (duration or age of onset of diabetes) or the type of diabetes (insulin dependent, non insulin dependent, or gestational diabetes).

METHODS

We analyzed the type of delivery and outcome of the pregnancies of all diabetic women delivered at Richland Memorial Hospital in Columbia, South Carolina between January 1, 1978 and December 30, 1980. Delivery was performed either by a private obstetrician or by resident physicians under the supervision of a member of the Department of Obstetrics and Gynecology of the University of South Carolina. Neonatal care was provided by pediatricians or neonatologists practicing at Richland Memorial Hospital.

Patients were classified by both their type of diabetes, Type I, Type II, and gestational diabetes as well as by their obstetrical class, Class A, B, C, and D. To specify White's[1] obstetrical class, patients were placed in Class A if two or more of the following three glucose values were exceeded following a 50 gm. glucose load: fasting 90 mg/dl, 1 hour 165 mg/dl and 2 hours 145 mg/dl. Those with a fasting serum glucose greater than 105 mg/dl or a post prandial serum glucose greater than 150 mg/dl were treated with insulin and included in Class B. Women who had diabetes diagnosed prior to pregnancy, but with a duration of less than 10 years or who had developed the disorder after age 20 also were included in Class B. Those who had had diabetes for greater than 10 years or who had developed diabetes between ages 10 and 20 were placed in Class C. Class D included patients who had the onset of diabetes prior to the age of 10 or a duration of diabetes of greater than 20 years. The second categorization of patients related to the type of diabetes. Type I referred to those who had insulin dependent ketosis prone diabetes and Type II included patients who had non insulin dependent, non ketosis prone diabetes.

Glucose measurements were done by the method of Trinder[2] on serum using an automated glucose oxidase/peroxidase procedure. Gestational age of the infant was determined by the Dubowitz score[3] and agreed in every case within two weeks of the gestational age determined by the history of the mother's last menstrual period, physical examination of the mother before the 16th week of gestation, or serial ultrasonography. Elective delivery of all patients was done after the 36th week of gestation. Fetal lung maturity was assessed by measurement of the amniotic fluid lecithin sphingomyelin ratio in all patients in whom labor was induced or a primary Caesarean section was performed. Infants were classified as large for gestational age, appropriate for gestational age or small for gestational age according to the criteria of Lubchenco et. al.[4]

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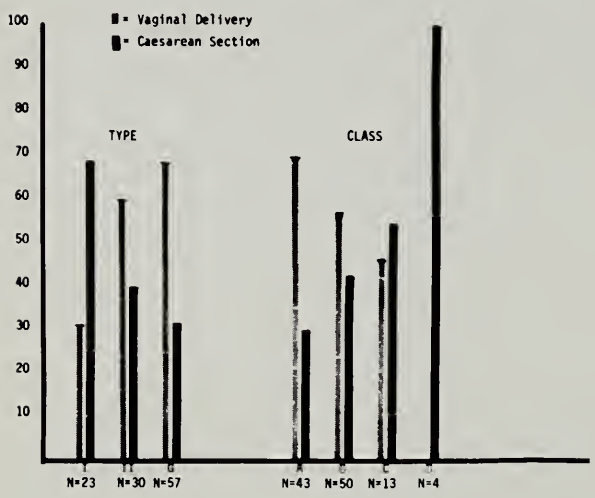
RESULTS

Mother

One hundred and ten diabetic patients were delivered in the three year interval between 1978 and 1980. Approximately 40% of the patients received care from private physicians, and the other 60% were delivered under the supervision of the Department of Obstetrics and Gynecology. About two-thirds were black (63%) and one third white (37%). Two-thirds were multiparous (67%) and one third primiparous (33%). Fifty seven patients (51%) developed diabetes during pregnancy, twenty three (21%) had Type I diabetes and thirty (27%) had Type II diabetes prior to the onset of pregnancy. When White's classification was used there were 43 included in Class A, 50 in Class B, 13 in Class C and 4 in Class D. (Figure 1).

Figure 1

Method of Delivery in Diabetic Pregnancies by Class and Type Diabetes



Gestational age at the time of delivery ranged from 28 to 40 weeks. The mean gestational age at the time of delivery for each group was as follows: Type I 36 weeks, Type II 37 weeks, gestational 38 weeks, Class A 39 weeks, and Class B, C, and D 36 weeks. The frequency of Caesarean section also varied both by type of diabetes as well as by the class. By class the Caesarean section rate was: Class A 30%, Class B 42%, Class C 54%, Class D 100%; the Caesarean section rate by Type was: Type I 69%, Type II 40%, and gestational 32%. Eighteen percent of all deliveries at Richland Memorial Hospital were by Caesarean section compared to a 44% Caesarean section rate for pregnant diabetics. There was no maternal mortality.

Infant

In the general population, 10% of infants are large for gestational age, 10% small for gestational age, and 80% appropriate for gestational age. In this series, 29% of the infants of diabetic mothers were large, 65% appropriate, and 4% small for gestational age. A blood sugar below 30 mg/dl occurred in approximately 25% of the infants and clinically detectable jaundice in 60%. One third of the infants received oxygen or other respiratory assistance. Twenty six infants received hood oxygen alone, two were treated with continuous positive airway pressure (CPAP), and three were placed on a ventilator.

One infant died of prematurity and respiratory distress syndrome, five infants had congenital abnormalities that were incompatible with life, and six others had major congenital abnormalities. *(Table 1).* There were five fetal deaths. The overall perinatal mortality rate was 10%, but when the infants who died of major congenital abnormalities were excluded, the adjusted perinatal mortality was 5%. Twenty percent of the infants born of diabetic mothers were admitted to the neonatal intensive care unit and the mean hospital stay for all infants of diabetic mothers was seven days.

Table 1
ANALYSIS OF CONGENITAL ABNORMALITIES

Type			*Incompatible with life*
I	4/23	17%	2
II	3/30	10%	2
G	4/57	7%	1
Class			
A	2/43	2%	1
B	5/50	10%	2
C	3/13	23%	2
D	1/4	25%	0
Total	11/110	10%	5

DISCUSSION

Although there has been much improvement in the outcome of diabetic pregnancies, diabetes in pregnancy is still associated with significant maternal morbidity as well as perinatal morbidity and mortality.[5] Nationally, maternal mortality in diabetic pregnancies differs very little from that

in non-diabetic pregnancies, and in this series there were no maternal deaths. In addition, there was no indication that the long term vascular or renal complications that may be associated with diabetes were accelerated during pregnancy. Specifically, there was no indication of significant deterioration of renal function or rapid progression of diabetic retinopathy in any diabetic patient during her pregnancy.

The primary cause of maternal morbidity related to the increase in the rate of delivery by Caesarean section. In the diabetic pregnancies, Caesarean section was performed most often in patients who were insulin dependent prior to pregnancy (Type I) and in those who had had the onset of diabetes prior to the age of ten (Class D). The increased need for Caesarean section was related primarily to delivery at an earlier gestational age when vaginal delivery was not feasible.

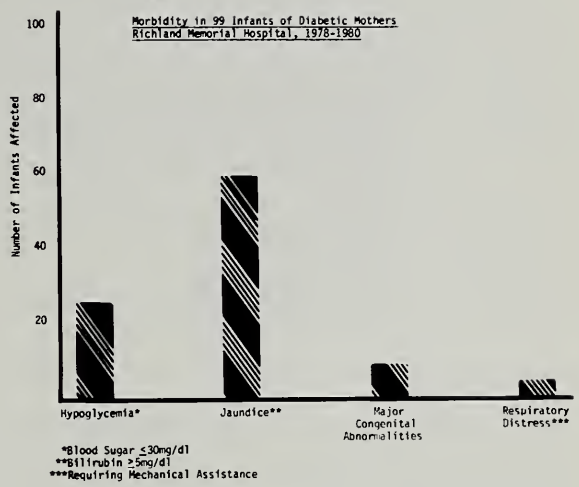
Now that maternal mortality in diabetic pregnancies approaches that of the non-diabetic, attention has shifted to antenatal assessment and management directed towards improving the outcome of the infant. Hypoglycemia, jaundice, congenital abnormalities and respiratory distress are among the most common causes of morbidity.[6] In utero, a fetus exposed to intermittent high glucose concentrations will have hypertrophy of the pancreatic beta cells and for several hours after delivery these cells may continue to secrete large amounts of insulin resulting in hypoglycemia.[7] In spite of very strict goals for maintenance of normal blood glucose levels during pregnancy, normal levels throughout the day are not always obtainable. This fact may explain why many infants of diabetic mothers become hypoglycemic after delivery. Twenty five percent of the infants were documented to have low serum glucose levels within six hours after delivery in spite of the fact that many were treated prophylactically with intravenous or oral glucose solutions. (Figure 2).

Jaundice also occurs more frequently in infants of diabetic mothers. This again may be due in part to an increase in the number of preterm deliveries occurring in diabetic pregnancies. Clinically apparent jaundice, documented by a bilirubin of greater than 5 mg/dl was present in about 60% of infants. In most cases, jaundice did not require exchange transfusion and was easily treated with phototherapy alone.

One third of the infants were delivered before

Figure 2

Morbidity in 99 Infants of Diabetic Mothers
Richland Memorial Hospital, 1978-1980



37 weeks of gestation, but prematurity was not as significant a cause of perinatal mortality as it has been in the past. Although many infants received hood oxygen, only five infants who survived had respiratory distress of such a degree as to require mechanical ventilation assistance with either CPAP or a respirator. The one infant who died of respiratory distress and prematurity was delivered early due to premature labor which could not be arrested by the use of isoxsuprine.

In this series, congenital abnormalities were by far the most significant cause of morbidity and mortality in the live born infants. The five infants who had congenital abnormalities incompatible with life had heart defects, costovertebral dysplasia and/or major urinary tract abnormalities. Six other infants had major abnormalities but survived. (Tables 2 and 3). Congenital abnormalities occurred most frequently in infants of mothers with long standing, insulin dependent diabetes (Class C and D and Type I). There was such a wide variety of organ systems affected in these 11 infants, that one must suspect that the abnormalities occurred very early in gestation, during the first three to six weeks of pregnancy.

It has been hypothesized that metabolic abnormalities, such as hyperglycemia, may be responsible for the high rate of major congenital abnormalities in infants of diabetic mothers.[8] Therefore, all known diabetic women should be controlled as tightly as possible prior to the onset of pregnancy as well as in the first trimester. However, in this series most patients were seen for the first time late in the first trimester or in

Table 2
LETHAL CONGENITAL ABNORMALITIES

	Type, Class	
1.	(I, C)	Costovertebral dysplasia
2.	(II, B)	Ventricular septal defect, atrial septal defect, hypoplastic lungs, absent left kidney, imperforate anus, costovertebral dysplasia
3.	(I, C)	Agenesis prostatic urethra with congenital obstructive uropathy
4.	(II, B)	Hypoplastic left heart
5.	(G, A)	Tracheo-esophageal fistula, laryngeal atresia, absent left kidney

Table 3
MAJOR CONGENITAL ABNORMALITIES

Nonlethal

	Type, Class	
1.	(I, C)	Ventricular septal defect, patent ductus arteriosus, coarctation of aorta, coronary artery anomaly
2.	(G, B)	Internal hernia
3.	(G, B)	Ventricular septal defect
4.	(I, D)	Ladd's bands with intestinal obstruction
5.	(II, B)	Sacral agenesis
6.	(G, A)	Fetal hydantoin syndrome, Klumpke Erb's paralysis

the second trimester of pregnancy, at a time when it is unlikely that a significant change in metabolic control would have altered the incidence of congenital abnormalities.

At this time 90% of all diabetic pregnancies have a favorable outcome at Richland Memorial Hospital. However, perinatal mortality is three and one-half times greater for infants of diabetic mothers born at Richland Memorial Hospital than for infants of non diabetic mothers in South Carolina.[9] Most of the perinatal deaths were not preventable even when excellent medical care was rendered due to the lack of an adequate method to anticipate fetal demise in utero and to prevent major congenital abnormalities. It is difficult to delineate exactly which factors are the most important in influencing perinatal survival. Very close monitoring of all diabetic pregnancies including tight control of the blood sugar and intensive antenatal assessment as well as excellent neonatal care are thought to be the major factors which have improved the outlook for both the diabetic mother and her infant. □

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MANAGEMENT OF STAB WOUNDS OF THE ABDOMEN: A RETROSPECTIVE COMMUNITY HOSPITAL EXPERIENCE AND REVIEW OF THE CURRENT LITERATURE*

G. DANIEL GONZALEZ, M.D.
JOHN E. BOTTSFORD, JR., M.D.**

Unnecessary laparotomy rates as high as 67% have been reported in institutions utilizing the mandatory exploration of patients with abdominal stab wounds.[7] Selective operation has markedly reduced the incidence of negative explorations in many series.[5, 6, 7, 8] We have reviewed a nine year experience in the management of these injuries in a community hospital. Recent literature advocating the conservative management of abdominal stab wounds and the respective results are reviewed. Criteria for selective operation of these patients is discussed.

MATERIALS AND METHODS

Retrospective reviews were done on patients admitted with penetrating wounds of the abdomen. This is defined as a wound inferior to the fourth intercostal space, medial to the mid-axillary lines, and superior to the inguinal ligaments. More than one hundred patients with abdominal gunshot wounds were identified, and thirty-three patients with abdominal stab wounds were found during the period of 10/72 to 1/81. Of these 33 patients, 29 were males. The ages ranged from 10 to 57 years. Most patients were stable or easily resuscitated upon arrival, with four patients clinically in shock.

The weapon was identified as a knife in 30 cases, an ice pick in two cases, and a sharp object in one instance. Three patients had multiple stab wounds. An altered sensorium due to alcohol or drugs was documented in 14 (42%) of the patients. Fourteen patients received digital wound exploration in the emergency room, with four examinations identifying peritoneal violation.

Twenty-seven patients underwent exploratory laparotomy, three patients were observed for at least 24 hours and subsequently discharged, and wound exploration in the operating room proved no peritoneal involvement in another three cases. The indications for operation are listed in Table 1. The presence of an abdominal stab wound(s) was the sole indication for operation in 14 patients. Five patients were explored for having absent bowel sounds and/or peritoneal signs. Three patients having unexplained shock, and three other patients with isolated evisceration were explored. A combination of shock, absent bowel sounds, peritonitis, evisceration, and a bloody nasogastric aspirate mandated operation in two patients. No patient demonstrated abnormal findings of KUB (9) or IVP(3) radiographs. Only one patient, who presented in severe shock, revealed a significantly decreased hematocrit of 15.

Table 1
INDICATIONS FOR SURGERY AND OPERATIVE RESULTS

	Pos.	*Neg.*	*Insignificant*
Stab Wound — 14	5	5	4
Loss of Bowel Sounds/ Peritonitis — 5	2	2	1
Unexplained Shock — 3	3	—	—
Evisceration — 3	—	3	—
Combination Above — 2	2	—	—

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RESULTS

Twelve patients were found to have positive laparotomies with intra-abdominal injuries necessitating repair. There were 15 negative laparotomies consisting of ten patients with no intra-abdominal injury, and five patients with insignificant injuries not requiring repair. Table 2 illustrates the operative findings. Thus, negative laparotomies occurred in 55% of our patients. There were no deaths. Postoperatively four patients developed respiratory complications, and acute renal failure and urinary tract infection occurred singly for an operative morbidity of 22%.

Table 2
OPERATIVE FINDINGS

Injuries Requiring Repair	*Insignificant Injuries*
Small Bowel — 8	Serosa Small Bowel — 1
Spleen — 4	Liver — 3
Liver — 3	Omentum — 2
Stomach — 2	Superior Epigastric Artery — 1
Diaphragm — 2	Hematoma — 1
Mesentery — 4	

DISCUSSION

Controversy has existed in the management of abdominal stab wounds since 1960 when Shaftan first proposed the conservative management of penetrating abdominal injuries. Conservative management is identified as patient exploration only when indications of visceral injury and/or peritoneal irritation are present. These generally accepted criteria are listed in Table 3. Others have since advocated the same,[2, 5, 6, 7, 8] but mandatory exploration is still commonly practiced.[1] In 1964 Mason presented a series where 92 of 94 patients were treated by a policy of mandatory exploration. Forty-two (48%) patients had intra-abdominal injuries requiring repair. Sixteen insignificant injuries were identified, while 32 patients (31%) had no injury, with a negative laparotomy rate of 52%. Adoption of a conservative policy in 35 patients led to exploration in 60% of the patients; only four insignificant injuries were found for a positive laparotomy rate of 87%. There was no mortality in the observed group.[5]

Printen, in 1968, reported a prospective study of 267 patients with abdominal stab wounds treated conservatively; 47% of the patients ultimately required exploration. Peritoneal violation was present in 95% of the explorations, and 90% of these patients had significant visceral injury. In the 141 patients observed, there was no mortality or significant morbidity.[8]

A 1974 sequential series by Nance identified 836 patients with such injuries. In 442 patients, a policy of mandatory exploration was followed; 53% of these patients had no visceral injury and 14% had insignificant injuries. The overall morbidity was 27%. Under a policy of selective operation in 392 patients, 210 patients were observed without any mortality. There was no morbidity attributed in the group of 10 patients initially observed and subsequently explored. The incidence of unnecessary operations decreased from 67% to 11%, and the morbidity was reduced to 12%. The percentage of patients explored was reduced from 95% to 45%.[7]

Table 3
INDICATION FOR OPERATION

1) Shock unexplained by other means.
2) Signs of peritoneal irritation — tenderness, rebound, guarding, rigidity.
3) Absent bowel sounds.
4) Evisceration of abdominal contents.
5) Bloody nasogastric aspirate, proctorraghia, hematuria.
6) Positive diagnostic study — pneumoperitoneum, abnormal IVP, positive peritoneal lavage.

Wilder reported in 1980 a 20 year experience with 403 patients treated by conservative management. Fifty percent were treated observantly without mortality. The negative laparotomy rate was 5.3% and the morbidity was 9.2%[3]

Most investigators agree that the majority of patients requiring exploration have signs of visceral injury on presentation. Only 4.8% of Printen's 267 patients and 4% of Wilder's series required delayed operation. Nance delayed operation on 2.4% of his series. The conservative management of these injuries requires frequent and repeated patient examination. Inability to do so is a contraindication to such a policy.

Variability is reported in the accuracy of the criteria for operation listed in Table 3. Shock is the most reliable evidence of visceral injury, though not infallible. Five of twenty-six patients explored by Nance for shock had negative explorations. Mason and Shaftan consider the presence of bowel sounds to be the most reliable guide in excluding intra-abdominal injury, and

errors made usually result in negative explorations.[5, 9] Nance explored 122 patients demonstrating peritoneal signs with 100 patients having visceral injuries. However, Maynard contrastively reported negative laparotomies in 63 patients who exhibited impressive peritoneal signs, and 42 positive explorations in patients having a benign abdominal exam.[1]

Evisceration is a very variable indicator of intra-abdominal injury. Ryzoff explored 25 patients with evisceration alone identifying 11 patients (44%) without injury.[2] Forty-one of 52 patients operated on by Nance for the same indication had positive findings.

Intragastric blood, proctorraghia, pneumoperitoneum, and a bloody peritoneal aspirate are diagnostic when present.[5, 6, 9] Adequate wound exploration can identify many patients with fascial penetration; Galbraith treated 96 of 237 patients without hospitalization and a morbidity of 2% (wound infections).[3] Seventeen percent of 638 patients in Thal's series were spared hospitalization after a negative wound exploration.[4]

The efficacy of peritoneal lavage was determined by Galbraith in 64 patients with known fascial penetration who were hemodynamically stable. All patients were explored after lavage, and if the criteria for a positive lavage (Table 4) were to have been followed, a negative laparotomy rate of 3% would have been found. Five insignificant injuries and one stomach perforation were missed, and it is felt that the latter would have soon manifested itself. There was no false positive.

Table 4
CRITERIA FOR POSITIVE PERITONEAL LAVAGE

Grossly bloody aspirate.
Greater than 50,000 RBC/mm^3 or 500 WBC/mm^3 in lavage fluid.
The presence of bile or bacteria.
Amylase greater than 175.
Gastrointestinal particulate matter.

Thal reports the incidence of negative explorations to be 4.1% when peritoneal lavage was used in stable patients without peritoneal signs sparing operation in 70% cases. The false negative rate was 4.0% (six patients) with two of three significant injuries becoming apparent within six hours. A false positive lavage occurred in three patients (2.4%).

SUMMARY

Our community hospital experience is similar to larger institutions utilizing the policy of mandatory exploration of patients with abdominal stab wounds, yielding a 55% negative laparotomy rate and a 22% operative morbidity. Selective operation has shown to reduce the need for exploration in greater than 50% of the patients.[5, 6, 7, 8] The incidence of negative laparotomies was decreased to 5.3%, 11%, 13%, and 26% in the four series presented.[5, 6, 7, 8] Adherence to the criteria for the selective management of patients with abdominal stab wounds has resulted in no mortality attributed to the observation of patients, and no increase in the morbidity of those patients undergoing delayed exploration. A forty-eight hour observation period is recommended for those patients treated with expectation.

The reliability of the various indicators of visceral injury and peritonitis was discussed. Wound exploration may allow for outpatient management in up to 40% of the patients. In cases where fascial or peritoneal penetration is identified, peritoneal lavage has reduced the rate of negative explorations to less than 5%. Peritoneal lavage may also allow early patient operation prior to the development of peritoneal signs.

Based on the information presented, we strongly support the policy of selective operation of patients with abdominal stab wounds rather than mandatory exploration. Attention must be given to any surgical policy where unnecessary patient operation can be reduced by greater than 50% without any significant morbidity and no mortality. It is apparent that selective surgical intervention is proved beneficial to patients. It is also apparent that it increases the responsibility of the surgeon in emphasizing the use of clinical judgement. □

ACKNOWLEDGEMENT
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AGENESIS OF THE GALLBLADDER: CASE REPORT AND REVIEW OF THE LITERATURE

ANDREW J. WHITAKER, M.D.*

At the 4 mm. stage of the human embryo,[1] in the sixth or seventh week of intrauterine life,[2] the hepatic bud arises from the junction of the foregut and midgut. The cranial portion (pars hepatis) forms the liver, while the caudal portion (pars cystica) forms the cystic duct and gallbladder. Failure of the caudal portion to develop may result in various anomalies, from rudimentary gallbladder and cystic duct to total absence of both. This is a rare anomaly, having been reported at autopsy as occurring in .03% to .3% of cases.[3] The first case was reported by Bergman in 1701. However, the condition was known by Aristotle. It is frequently associated with other anomalies, common among these being polycystic kidneys, imperforate anus, rectovaginal fistulae, intracardiac shunts, cleft palate, harelip, tracheo-esophageal fistula and hypoplasia of one or more bones. That the condition can be hereditary is well documented in the literature.[4] Gallbladder agenesis also occurs in fish, birds and other mammals.

Authors disagree as to whether gallbladder agenesis is associated with inordinate pathology.[1, 5] Symptoms in clinical cases are those of cholecystitis, cholangitis, and choledocholithiasis. Preoperative diagnosis is difficult, especially in the absence of a dilated common duct. Oral cholecystography is of little assistance. Intravenous cholangiography may be of some value. Ultrasound has been a valuable tool where a gallbladder is indeed present or when the common duct is dilated. Its accuracy is limited, however, by obesity, excess bowel gas, in children, and by the experience of the interpreter. Percutaneous cholangiography is still somewhat in its infancy, but is adding to the armamentaria in this field.[6]

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When the gallbladder is not found in its usual position at surgery, one should be careful to search for it elsewhere, such as in the liver, omentum, falciform ligament or retroduodenal area. Also, as stated above, search for other anomalies. Twenty-five to 50% of dilated ducts will have calculi.[7]

CASE REPORT

This 24 year old female Gravida O, was referred and admitted to the hospital with a history of indigestion, constipation, gas bloat, intolerance to fatty foods and two recent (outpatient) oral cholecystograms which failed to visualize a gallbladder. There was no history of other recent or remote illnesses, no previous hospitalizations, allergies, or operations. The family history revealed that the patient's father had a harelip repair.

Physical examination on admission showed an essentially healthy appearing female of stated age, with 1+ soreness on palpation across the epigastrium. Additional studies revealed a normal upper GI series and EKG. Urine was negative at 10.17S.G., hemoglobin 13.2 gm., with normal WBC and differential. There was a mild elevation of SGOT (57mU/ml), and cholesterol (307mg).

At surgery, the patient was noted to have complete absence of the gallbladder and cystic duct, with a small cleft in the liver surface at the site of the gallbladder fossa. An operative cholangiogram was done, using 15cc. of 60% Hypaque solution injected through a 23 gauge needle into the common duct. This showed a completely normal intrahepatic biliary tree, and a common duct of normal calibre (Fig. 1). The dye flowed readily into the duodenum and no defects were noted. Abdominal exploration was otherwise negative except for some proximal thickening of the duodenum and a "fibrous ridge" along its

upper portion. There was no overt edema or "stippling." An appendectomy was performed. Post-operative diagnosis was "duodenitis," probably associated with acid peptic disease.

FIGURE 1

The patient developed a temperature elevation of 100.6F 48 hours post-operatively. This subsided without antibiotics or wound complications. No specific treatment was offered for the "duodenitis." She was dismissed from the hospital on the sixth post-operative day and returned to her clerical work at two weeks post-surgery.

SUMMARY

We have presented a case of agenesis of the gallbladder and cystic duct in a 24 year old female, along with a brief review of the literature. Most such patients live a normal life and the anomaly is discovered only at necropsy. When symptoms appear, oral cholecystography is usually only of screening value. Ultrasound and percutaneous cholangiography may offer valuable assistance in diagnosis, especially when the common duct is dilated.

The harelip in the patient's father is in keeping with the hereditary nature of anomalies associated with this condition. □

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SCMA NEWSLETTER

OCTOBER, 1981

** COUNCIL RETREAT - SEPTEMBER 25-27, 1981 **

The South Carolina Medical Association Council, in extensive meetings and workshops over the week-end of September 25-27, 1981, addressed many issues affecting the Association and the practice of medicine in South Carolina. Following are summaries of actions taken.

VOLUNTARY GUIDELINES FOR PHYSICIAN ADVERTISING

Responding to many individual South Carolina physicians and several county societies, Council has considered the question of establishing *voluntary* guidelines for physician advertising, particularly in newspapers and the telephone directory. The SCMA Mediation Committee, Chaired by *Boyce M. Lawton, Jr., M.D.*, and the SCMA Commission on Public Affairs and Professional Relations, *U. Hoyt Bodie, M.D.*, Commissioner, developed and presented these guidelines which Council approved. Council stressed that the guidelines which follow are strictly voluntary, but should serve as easy reference for those physicians who wish to use them.

GUIDELINES FOR PHYSICIAN ADVERTISING

"Advertisement for physicians' services should convey the following: (1) Name; (2) Specialty Description; (3) Office Hours; (4) By appointment; (5) Address (directions if necessary); (6) Phone Numbers, e.g., office, answering service, home.

These advertisements may also include: (1) Degrees, titles of distinction; (2) Charges, e.g., initial visit; or (3) Credit cards accepted.

These advertisements should prohibit: (1) Guarantees; (2) Testimonials, including testimonials claiming uniqueness; (3) Misleading statements, e.g., offering free services when not actually free; (4) Statements appealing to fear."

The Current Opinions of the Judicial Council of the AMA, 1981, Page 12, Advertising and Publicity states: "Any communication or message within the scope of this opinion should include the name of at least one physician responsible for its content."

COUNCIL ALSO APPROVED BOLD FACE LISTINGS FOR PHYSICIANS IN THE WHITE PAGES OF THE TELEPHONE DIRECTORY.

AMA POSITION ON BACCALAUREATE DEGREE FOR NURSES

Council considered a recent statement issued by AMA Executive Vice President, James Sammons, M.D., favoring a Baccalaureate Degree for all nurses. In response to this statement, and because recent statistics show that S.C. gains more nurses than she loses, despite what is considered a nursing shortage, the following Resolution was developed to present to the AMA House of Delegates at its December Interim Meeting:

> *"WHEREAS, the SCMA is committed to the concept of improving and expanding bedside nursing; and WHEREAS, in the State of South Carolina, statistics have shown that our problem is not one of actual nursing shortage but of less patient care hours being delivered by the nurses available; and WHEREAS, this problem is related to increasing administrative duties for the nurses available; and WHEREAS, the SCMA feels that the elimination of all programs of nursing except the Baccalaureate Degree would compound rather than alleviate problems in the critical area of bedside nursing;*
>
> *BE IT KNOWN THAT (OR THEREFORE BE IT RESOLVED) that the SCMA opposes all efforts to downgrade or eliminate other nursing programs in favor of the Baccalaureate Degree."*

GOOD NEWS REGARDING AMA MEMBERSHIP IN SOUTH CAROLINA

The SCMA has been notified by the AMA Membership Department that beginning in 1982, student AMA members from South Carolina will be included in the total membership figures for establishing Delegate count. If the current members and students enroll in the AMA in 1982, SCMA will have 2,146 AMA members and will be allowed a third Delegate and Alternate Delegate beginning in 1983. *Every SCMA member is urged to encourage his colleagues to participate in organized medicine by joining both the SCMA and the AMA in 1982!!!!!*

BY-LAWS APPROVED FOR SOUTH CAROLINA MEDICAL BUILDING, INC.

Responding to the concerns of the Board of Directors of the South Carolina Medical Building, Inc., that the Building Corporation be given a clearer understanding of its role as a profit-making organization, Council has approved a set of By-laws for the Corporation.

The By-laws for the Building Corporation set forth the relationship between the SCMA and the SCMB. These By-laws were approved by Council and later presented to the Stockholder (Voting Members of the South Carolina Medical Association Council acting on behalf of the Stockholder) for approval. The By-laws will now go to the Building Corporation Board for implementation.

1982 ANNUAL MEETING SCIENTIFIC TOPICS

The CME Committee reported to Council that the themes for the 1982 Annual Meeting Scientific Sessions will be *(1) Infectious Disease and Antibiotic Review; (2) Sports Medicine; and (3) Hypertension.*

Watch for news regarding the Annual Meeting, to be held in Charleston again in 1982, May 5-9, at The Charleston Sheraton.

JOHN C. HAWK, JR., M.D., RE-NOMINATED TO AMA COUNCIL ON CONSTITUTION AND BY-LAWS

Council has endorsed the candicacy of *John C. Hawk, Jr., M.D.* for re-election to the AMA Council on Constitution and By-laws. Dr. Hawk's present term expires in 1982. Council urges the support of the membership in Dr. Hawk's campaign.

MEDICAL/LEGAL INTERPROFESSIONAL CODE

A special committee consisting of representatives from SCMA and the S. C. Bar met several years ago and developed a Medical/Legal Interprofessional Code, which was subsequently approved by the SCMA House of Delegates. The Code, in its previous form, did not pass the meeting of the S. C. Bar, and a revised document was presented to Council for consideration. Council approved this version, with some changes, which will now go back to the Bar for consideration. In addition, Council approved the establishment of a permanent Medical/Legal Committee for arbitration purposes. Council stresses that this will be a purely voluntary document, but should assist physicians in their relationships with attorneys if both physician and attorney agree to its use.

LEGISLATION ON TAX CREDITS

The Council heard a report from the SCMA Committee on Legislative Activities which recommends providing tax credits at the state level for physicians providing Medicaid services. DHEC, DSS, Vocational Rehabilitation and the S. C. Commission for the Blind would favor such legislation, and one or more of these agencies will co-sponsor and introduce it. The SCMA Council voted its support, and further news will be forthcoming through your "Legislative Update" as to the progress of this legislation.

PROFESSIONAL LIABILITY COMMITTEE ACTIVITIES

A report from the SCMA Professional Liability Committee indicates it is working on a study of the various tort reform measures in existence throughout the country to evaluate their possible impact if enacted in this state and the probability of having such measures in South Carolina.

The committee's work has also included a recommendation for a proposal to establish a risk management program for professional liability. This proposal is being developed by the McNeary firm and will be presented to the JUA Board late this year or early in 1982. If approved by the Board, the SCMA would administer the program.

PRESCRIPTION WRITING LIMITATIONS

It has been reported that problems exist throughout the state in the enforcement by DHEC and the State Board of Medical Examiners of prescriptions for controlled substances. Council has been advised that the problems were created due to conflicting interpretations of the regulations on the part of the Attorney for the Board, and the officials at DHEC. The SCMA Committee on Medical Services has been asked to investigate this matter.

CAPSULES

William Hammill, M.D. of Spartanburg has been appointed to the Advisory Committee of the State Board of Pharmaceutical Examiners. *James Young, M.D. of Anderson*, will serve as a Physician Consultant from the SCMA to the State Nursing Board, due to the recent resignation of Harrison L. Peeples, M.D. *Robert Taylor, M.D. of Spartanburg*, was elected recently to the Board of Directors of the American Academy of Family Practice. Dr. Taylor received Council's enthusiastic endorsement for this position.

In addition to the regular Council meeting, workshops were held on the following topics: *(1) Professional Liability; (2) Relationships with the S. C. Medical Care Foundation and the SCMA Members' Insurance Trust; (3) Relationships with the S. C. Institute for Medical Education and Research, SOCPAC, and the S. C. Medical Building, Inc.; and (4) Relationships with Outside Organizations.* Details of these workshop reports will be published in the November Newsletter.

- OTHER NEWS -

The Health Awareness and Promotion Initiative (HAPI) Clearinghouse is a collection of information on risk factors related to chronic diseases. Located within the Educational Resources Center of DHEC, the HAPI Clearinghouse welcomes the opportunity to serve the health professional and offers a variety of services including: *free educational materials, a reference file of chronic disease educational materials, computer bibliographic searches, and referral services to national clearinghouses.* For additional information, contact *Marie Horton at 758-3949 or Mike Kronenfeld at 758-5448.*

The Council on Child Abuse and Neglect will sponsor its Sixth Annual Conference on Child Abuse and Neglect, October 15-16, 1981 at Trinity Episcopal Cathedral, 1100 Sumter Street, Columbia. This year's theme will be *"the circle of childhood"* and is designed to foster broad-based multidisciplinary and community involvement in child abuse treatment and family support prevention programs throughout South Carolina. For further information call *the Council at 254-0277* in Columbia or write *P. O. Box 5245, Columbia, SC 29250.*

INTRAV and the SCMA invite you to join an exclusive group of our members who will share the West Indies Air/Sea Cruise departing Columbia February 6, 1982 and returning February 13, 1982. *Reservations are extremely limited* and will be honored in the order received. For further information, contact the SCMA *at 252-6311.*

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Editorial

"WELLNESS" — NEW CATCHWORD OR NOVEL CONCEPT?

Our president, Dr. William Hunter, is a persuasive individual. I find it difficult to say "No" to Bill.

And so, when he asked me to give a keynote address at the First Statewide School Nurse Conference, I found myself sputtering, hemming, and hawing over the proposed subject: "*Wellness*". Saying "Yes" despite the better judgment of my neocortex and the admonitions of my gastric parietal cells, I realized that I would feel more comfortable talking about just about anything — say, "African green monkey kidney disease" or "pseudopseudohypoparathyroidism" — other than "*wellness*".

Needing more information on the subject, I reached for the two dictionaries on my desk. Surprisingly, neither recognized "*wellness*" as a word. Clearly, I needed expert advice — but where might I find it?

A quick inquiry around the hospital settled the issue. Since June 8, 1981, the hospital, I learned, had a new employee — a young woman bearing the title, "Wellness Coordinator." I called her immediately and asked whether she could inform me about the subject in the hospital cafeteria at noon the next day. She agreed to meet me at one o'clock, but not at noon — since that was when she did her daily exercises. Chuckling inwardly, I began to contemplate a tongue-in-cheek editorial in the finest Art Buchwald tradition ("Over a large bowl of organically-grown millet seeds and alfalfa sprouts, she went on to elaborate . . ."). But what I learned the next day was most informative.

Now sweeping across our land is what amounts to a *wellness movement*. It started in California. That our hospital now boasts a *wellness program* in addition to a conventional employee health program typifies a trend. Such programs are now the pride of many major companies — Bank of America, Boeing, Exxon, Liberty Life, Mobil Oil, Weyerhauser, and Xerox, to name just a few. Employers may soon offer their employees not "sick days" but "well days," to reward health rather than illness. Employers may provide "exercise breaks," as the Japanese have been doing for years, rather than "coffee breaks" or "cigarette breaks." Persons bearing the title "wellness educator" now turn up in all sorts of places, from hospitals to health spas.

Still searching, I formulated several questions:

(1) *How does the concept of "wellness," as used in this movement, differ from the customary concept of "health?"*

(2) *What brought about the wellness movement — what perceived needs does it seek to fill?*

(3) *Where does the wellness movement stand vis-a-vis traditional medicine? Are there any actual or potential areas of conflict?*

(4) *Should traditional medicine attempt to have input into the wellness movement and, if so, how?*

I shall address each of these issues, continuing to acknowledge my ignorance.

CONCEPT

Central to the movement is the catchword, "*wellness.*" Although "health" and "wellness" might seem to be synonymous, the "wellness educators" seek to go beyond the traditional definition of health.

Health has usually been defined in the past as the absence of disease. We pronounce people to

be "healthy," for instance, if we find no disease after performing a comprehensive physical examination. This notion has stood the test of centuries, and was even given a ponderous affirmation by the famous theologian, Paul Tillich, in one of his last addresses:

> "Health is not health without the essential possibility and the existential reality of disease. In this sense, health is disease conquered, as eternally the positive is positive by conquering the negative."[1]

However, the apostles of the new wellness movement employ an expanded definition of health. They embrace the World Health Organization's recent definition of health as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." "*Wellness,*" then, denotes optimum *functioning* of the individual, not just a normal physical examination combined with some reassuring laboratory studies.

A leading spokesman of the wellness movement defines "high level wellness" as a state of self-actualization:

> ". . . wellness begins when an individual sees himself or herself as a growing, changing person. High level wellness means giving care to the physical self, using the mind constructively, channeling stress energies positively, expressing emotions effectively, becoming creatively involved with others, and staying in touch with the environment."[2]

It is argued that untold numbers of persons pass their physical examinations and are declared "healthy" yet "are in fact bored, depressed, tense, anxious, or generally unhappy with their lives." It is perceived that these individuals have a lifestyle which is detrimental to their health, and that they can be helped.

CAUSES

There appear to be three major reasons for the wellness movement.

First, it is perceived that physicians have, to some extent, abdicated their roles as "wellness advisers." The starting thesis for the wellness movement is that approximately 80 percent of premature deaths attributed to heart disease, cancer, and stroke are preventable. It is perceived that a major way to prevent these deaths is to modify lifestyles. Traditional medical training does not prepare physicians to answer the innumerable nitty-gritty questions pertaining to lifestyle. Speaking as one physician, I can recall entering practice with the ability to recite the latest classifications of the hyperlipoproteinemias and the mucopolysaccharidoses but being completely unable to field a simple question such as "What do you think of the Scarsdale diet?" I had to "wing it" (that means "fake it").

Secondly, it is suggested that the growing popularity of the wellness movement may reflect, in part, public hostility toward traditional medicine. Such hostility is, of course, as old as medicine itself, and I have no comment here.

Finally, and probably most significantly, it is suggested that the popularity of the wellness movement reflects a growing dependency in our society for expertise. If one wishes to take any activity seriously nowadays, it seems necessary to join a club, pay an instructor, subscribe to a magazine, and so forth — so why should *wellness* be an exception? One local wellness program, for instance, offers to each participant a monthly newsletter, social events, a book, and a T-shirt. The program lasts a year, and includes physical activities such as aerobic dancing, instruction in relaxation techniques, and workshops in nutrition and in the control of stress. One emerges with an altered lifestyle, designed both to reduce the risk of disease and also to enhance one's capacity for creative living.

CONFLICT

All of the aims of the wellness movement appear to be quite consistent with the aims of traditional medicine. For years, we have advocated lifestyle modification based upon established cause-and-effect risk factors such as obesity, smoking, and dependence on alcohol and drugs. For years, we have conducted research into other risk factors, such as stress, which might be modified. Seen as a supplement to traditional medical examinations, wellness programs appear to be quite admirable. However, three potential areas of conflict emerged from my cursory overview.

First, some of the leaders of the wellness movement seem to imply that traditional medicine may be anachronistic. The author of a leading book, for instance, subtitled his work "*an alternative to doctors,* drugs, and disease" (italics mine). The argument states that traditional

medicine deals only with the symptoms and signs of conditions leading to premature death, whereas "high level wellness" is much more.[2]

The second area of potential conflict concerns *what* is carried out in wellness programs. Are participants suffciently informed about the trade-offs involved in this or that exercise program? We should remember that establishing the actual benefit from most "lifestyle modifications" may be extremely difficult.[3] Jogging provides an excellent example. One wonders, for instance, how today's avid joggers will view their benefits twenty to forty years hence as they nurse their osteoarthritic knees.

Finally, and most importantly, there is the question of *qualification* of persons identified as "wellness educators." The woman at our hospital has a master's degree in her field and clearly knows what she is talking about. She appreciates the significance of each of the baseline physiologic and laboratory tests which her participants undergo, and she considers physician input to be essential to her program. It is perceived, however, that a cadre of largely untrained persons may proclaim themselves to be "wellness educators," advising the public about this or that new diet or exercise program with little appreciation of the underlying issues. It does not require an Alvin Toffler to envision that such persons, equipped with a bookshelf of the latest manuals and some do-it-yourself laboratory tests, could replace physicians as the providers of the "annual check-up." I cringe to imagine that a cherished friend who recently underwent resection of an early colon carcinoma, found by her internist on a routine physical examination, might still be out there doing her jogging and relaxation exercises under the enthusiastic supervision of a poorly-qualified "wellness educator," blissfully unaware of a metastasizing malignancy.

CONCLUSIONS

A Mississippi physician wrote recently that "lifestyle is our generation's big medical fad" and argued against the trend toward lifestyle intervention.[4] An increasingly large segment of the public would disagree. So, I believe, would many (perhaps most) of the leaders in our profession. One thinks especially of the many exhortations of Dr. Harrison Peeples during his SCMA presidency that lifestyle education should begin early in the public schools. One thinks especially of the excellent summary of lifestyle interventions expressed at the Governor's Conference on Health.[5] We cannot ignore the basic thesis of the wellness movement; we should support it.

We should assist these persons in two ways. First, we should insist on some standard of certification for "wellness educators." We should recognize the potential for the public to be badly served by a new band of self-proclaimed paraprofessionals who are poorly prepared to comprehend the limitations of their methods. Secondly, we should work *with* qualified "wellness educators" toward sharper definition of those methods of intervention which *are* beneficial. One long-term follow-up study, for instance, indicated that the patterns of psychological defense mechanisms provide an excellent prediction of illness[6] — but how can these be modified effectively? We should continue to emphasize that the data in many areas are simply too scanty to make dogmatic recommendations.

The wellness movement does not seem to be a novel concept. We have always known that health — in its broadest sense — means more than the absence of disease. I am reminded especially of the words of Freud who, pressed for a definition of health, responded that health is "the ability to work and to love." □

— CSB

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President's Page

PRIVILEGE AND THE STATE BOARD OF MEDICAL EXAMINERS

Perhaps we should, from time to time, refresh our minds about the conditions under which we all practice medicine. I suppose that many people think as soon as we have an M.D. Degree and finish our training we can go out to practice medicine. Of course, we physicians know this isn't the case. In the United States, we must seek a license from the state in which we practice. Once we have obtained such a license, we have that *privilege* to practice medicine.

To maintain this *privilege* as a physician in South Carolina, we must avoid any "misconduct," as defined by the South Carolina Board of Medical Examiners (SCBME). In their *Rules and Regulations*, "misconduct" shall be a satisfactory showing to the board of any of the following:

(1) That any false, fraudulent or forged statement or document has been used, or any fraudulent, deceitful or dishonest act has been practiced by the holder of a license in connection with any of the licensing requirements.
(2) That the holder of a license has been convicted of a felony or any other crime involving moral turpitude, drugs or gross immorality.
(3) That the holder of a license is addicted to alcohol or drugs to such a degree as to render him unfit to practice medicine.
(4) That the holder of a license has been convicted of the illegal or unauthorized practice of medicine.
(5) That the holder of a license has knowingly performed any act which in any way assists an unlicensed person to practice medicine.
(6) That the holder of a license has sustained any physical or mental disability which renders further practice by him dangerous to the public.
(7) That the holder of a license has violated the principles of ethics as adopted by the State Board of Medical Examiners and published in their rules and regulations.
(8) That the holder of a license is guilty of engaging in any dishonorable, unethical or unprofessional conduct that is likely to deceive, defraud or harm the public.
(9) That the holder of a license is guilty of the use of any false or fraudulent statement in any document connected with the practice of medicine.
(10) That the holder of a license is guilty of obtaining fees or assisting in obtaining such fees under dishonorable, false or fraudulent circumstances.
(11) That the holder of a license has intentionally violated or attempted to violate, directly or indirectly, or is assisting in or abetting the violation or conspiring to violate any provisions or terms of the medical practice laws.
(12) That the holder of a license is guilty of violating the Code of Medical Ethics adopted by the board in accordance with § 40-47-20 or has been found by the board to lack the ethical or professional competence to practice medicine.

I would recommend that you read the first 42 pages of your copy of the most recent directory published by the SCBME.

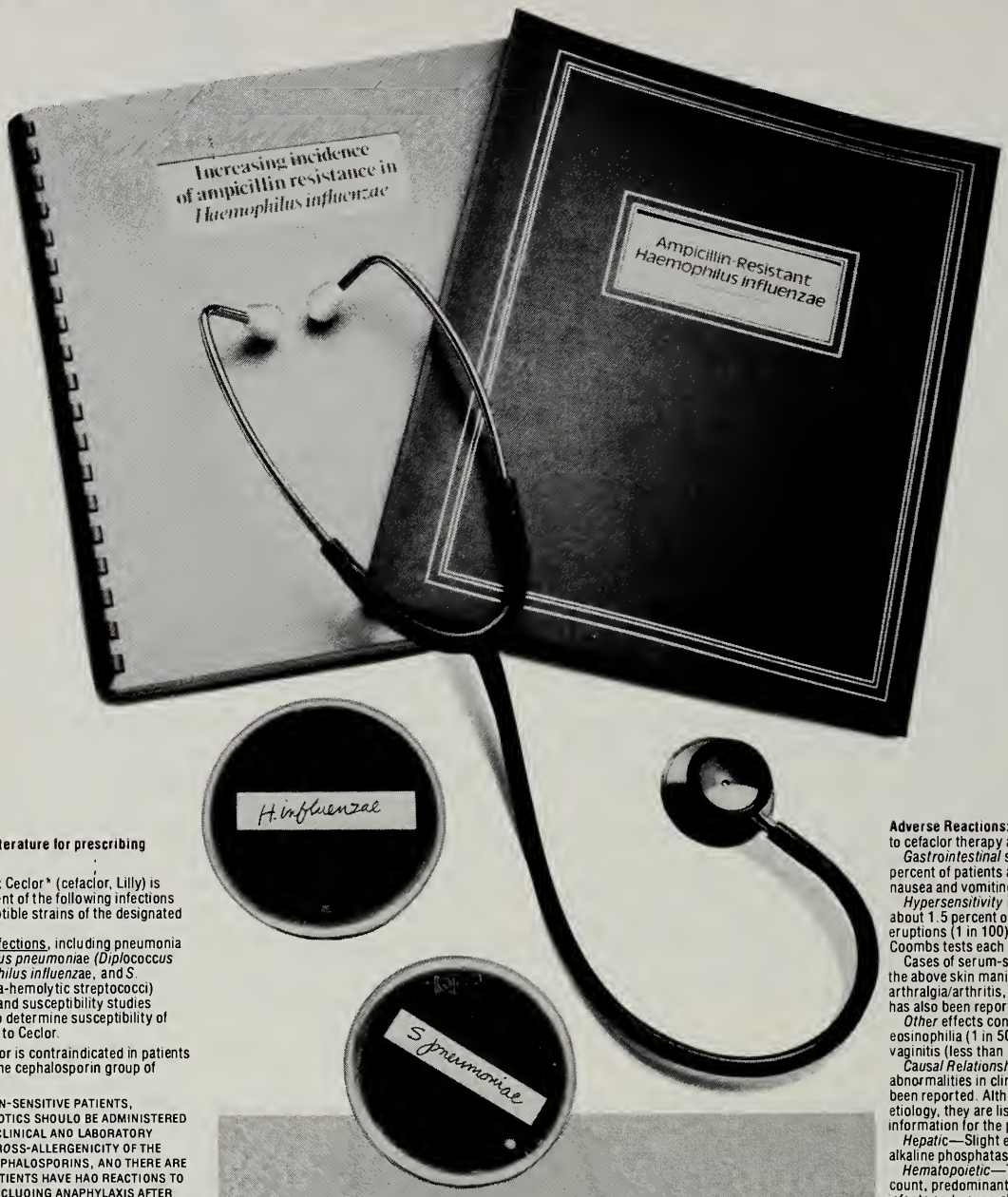
We physicians in South Carolina are fortunate in our SCBME. Unlike some states, this board is of our peers, nominated by the physicians of South Carolina to the Governor. We of the SCMA as an organization are called upon by the board to support our physician members from time to time in their relationships with outside organizations, which includes the SCBME.

As your President, I have had brought to my attention by various members incidents where physicians have lost their *privilege* to practice medicine. This is, of course, a tragedy of the first magnitude for the involved doctor. In looking into these cases, I have always found that while the SCBME is very strict, they are always very fair. Indeed, within the United States, the SCBME has a reputation for strictness. Many of the misconducts that come to the board have to do with the fact that it is against the law to (1) see patients while you are under the influence of alcohol or drugs, (2) permit P.A.'s to practice medicine, or (3) ignorance of the law.

We physicians must always keep in mind that to practice medicine is a *privilege*.

WILLIAM H. HUNTER, M.D., *President*

An added complication... in the treatment of bacterial bronchitis*



Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

Ceclor®
cefaclor

Pulvules®, 250 and 500 mg

Brief Summary.
Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS TO BOTH DRUG CLASSES (INCLUDING ANAPHYLAXIS AFTER PARENTERAL USE).

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Precautions: If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Usage in Pregnancy—Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

Usage in Infancy—Safety of this product for use in infants less than one month of age has not been established.

Adverse Reactions: Adverse effects considered related to cefaclor therapy are uncommon and are listed below:

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting (1 in 90).

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occur in less than 1 in 200 patients.

Cases of serum-sickness-like reactions, including the above skin manifestations, fever, and arthralgia/arthritis, have been reported. Anaphylaxis has also been reported.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200). [103080R]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.[8]

Note: Ceclor® (cefaclor) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.

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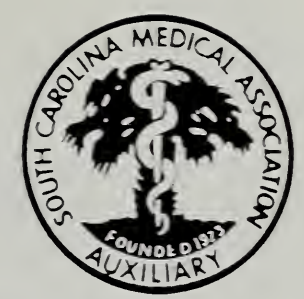

IMMUNIZING OUR CHILDREN AGAINST AUTO ACCIDENTS

Did you know that approximately 550 children are injured each year in automobile accidents on the highways of South Carolina? The South Carolina Medical Auxiliary knows that horrible fact and is gathering forces to do something about it.

So many parents do not know about safety seats for children or do not think they are important enough to use all the time. Because of this tragic lack of information, the Charleston Auxiliary, in cooperation with the Charleston Task Force on Child Safety Seats, has instituted a program to promote the use of child safety seats. This goal is being accomplished through the following areas: 1. *Public Awareness* — Public displays have been set up, and printed shoppers guides for the Charleston area have been done for "comparative seat shopping." A speaker's bureau is planned and multimedia involvement is being encouraged. 2. *Parent Education* — this has been done through the Child Birth Educators' of Charleston county. The Speaker's Bureau is of help in this area. 3. *Loaner Programs* — Two loaner programs are in the first phase of operation. Auxiliary members will be supporting their operation.

Statewide at the SCMAA meeting in May, a Resolution was passed encouraging all county auxiliaries to work on forming projects to meet the need of increased usage of safety seats in their communities. The SCMA passed a Resolution which supports the concept of legislation but stresses the importance of public education and loaner programs.

Nationally, the American Academy of Pediatrics has initiated a campaign during the past two years called "The First Ride, A Safe Ride," designed to get babies in car seats on their first ride home from the hospital. The American Medical Association passed a Resolution in July of this year supporting any efforts that individual states can take to promote legislation to mandate the use of safety seats.

No matter what approach is taken, it is clear that there is a national trend in both medical and non-medical organizations to eliminate this preventable illness now plaguing so many families of South Carolina and the nation. South Carolina Auxiliaries across the state are beginning to follow the lead of the Charleston Auxiliary in their well-organized and effective program.

In Charleston, the formation of a group working on safety seat awareness under the umbrella of the Auxiliary Health Projects Committee has become an effective power. A local coalition has been formed with representatives of all other interested organizations such as the Charleston Highway Safety Council, Charleston Medical Society, MUSC, County Health Department and Federation of Women's Clubs. This has provided needed coordination of all efforts in the area of child safety seat awareness and has significantly increased the number of people working toward this common goal.

It is clear that parents need to be educated about safety seats and children need to be protected in automobiles. County auxiliaries across the state of South Carolina are beginning to set an important example for their communities by seriously pursuing this project for the safety of all children.

(Information for this article was furnished by Mrs. H. David Reines. Martha is the Charleston Auxiliary Secretary and Coordinator of the Charleston Task Force on Child Safety Seats.)

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From the State House: LEGISLATIVE UPDATE

November, 1981

It is early November and, while the Legislature has technically adjourned for the year, some important developments are taking place--some behind the scenes and some in public view.

Several legislative bills are being "prefiled" in the House and Senate. Such bills can receive immediate attention by the committees, but cannot be reported out to the "floor" of the House or Senate until the Legislature formally convenes in January. Importantly for SCMA, *S.636* has been prefiled in the State Senate. *S.636* is an identical version of *H.2606*, filed in the House of Representatives earlier this year. Both *H.2606* and *S.636* will prevent Chiropractors from performing medical procedures--something they are now doing with impunity due to an ambiguous state law defining the parameters of their practice. *S.636* has been referred to the Senate Medical Affairs Committee. The make-up of that committee is shown at the end of this Update.

A legislative hearing will be held at 2:00 p.m. on Tuesday, December 1, 1981 in Room 108 of the Blatt Office Building to consider both bills. Interested physicians should make a point of attending this hearing to reflect the voice of the medical community. The Chiropractic element will be there in large numbers to oppose this legislation. If you need further information, you may refer to earlier issues of the Update or call the SCMA Legislative Department. We urge you to contact the members of the Senate and House Medical Affairs Committees asking that they seriously consider and pass into law the Chiropractic "Scope" Bill.

Insurance "Equality" Legislation

This issue was last reported in the August Update. Seven different bills will mandate that all health insurance policies provide coverage for various non-M.D. professionals (optometrists, podiatrists, nurses, psychologists, etc.) as long as the professional named can legally provide such service and the service is reimbursed when done by a physician.

Hearings were held on October 21, 1981 before the House Labor, Commerce & Industry Committee. Your President, *William H. Hunter, M. D.*, testified in opposition to the legislation. In a nutshell, he made the following points:

1) *Runs up costs of health insurance coverage by getting more professionals vying for insurance dollars. Many of these professionals are "limited" professionals--meaning they can only treat a segment or part of the body, necessitating another trip to a different health care specialist.*

2) *No incentive for the consumer to hold down costs under such a law, since he often doesn't equate expensive benefits with earlier paid premiums; and more and more employers are having to underwrite costs via group plans.*

3) *Lack of controls on charges by non-M.D. professionals, i.e., very little in the way of peer review mechanisms such as PSRO in the public sector, or the Insurance Peer Review Committees set up by physicians and insurance companies.*

4) *Other professionals' charges are usually equal to that of M.D. charges.*

5) *No public outcry for legislation--only the professions named in legislation desire this law.*

6) *Similar-type law passed in 1980 showed drastic (200%) increase in costs by way of benefits paid out by one insurance entity.*

Legislative Workshops Scheduled

In keeping with efforts to strengthen the SCMA OPERATION SCAPELL (South Carolina Auxiliary-Physician Educational Legislative Liaison), the officers, Auxiliary and Legislative Committee will be sponsoring three legislative workshops during the month of January. They are scheduled as follows:

Monday, January 4, 1982	*Greenville, S. C.*	*6:15 p.m.-9:30 p.m.*
Monday, January 11, 1982	*Charleston, S. C.*	*6:15 p.m.-9:30 p.m.*
Thursday, January 14, 1982	*Columbia, S. C.*	*6:15 p.m.-9:30 p.m.*

Mark your calendars now and plan to come. We plan to have two distinguished speakers at each workshop, a panel discussion and a question and answer session, plus dinner. The only cost will be for the dinner itself. More details will be forthcoming in future issues of the Update.

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* * * * * * * * *

Doctor of the Day Program

Plans are underway now for the Doctor of the Day Program during the 1982 Legislative Session. This is a valuable service provided by members of the SCMA for legislators and employees at the S. C. State House. The Doctor of the Day is expected to handle medical emergencies during the hours of 9:00 a.m. and 3:00 p.m. on his assigned day. If you would like to give one day of your time to this most worthwhile endeavor, please fill out the form below and return to Kay Douglass at the SCMA Office, P. O. Box 11188, Columbia, S.C. 29211.

I would like to serve as Doctor of the Day on _____

If that date is taken, I could serve on _____

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THE JOURNAL
OF THE SOUTH CAROLINA MEDICAL ASSOCIATION
VOLUME 77 NOVEMBER 1981 NUMBER 11

LEYDIG CELL FUNCTION IN MEN*

HOWARD R. NANKIN, M.D.**

The present review will highlight hypothalamic-pituitary-gonadal function in males from fetal development through old age, and review some of the more common clinical Leydig cell disorders.

What causes maleness? A normal male carries two sex chromosomes — one X and one Y. The X is common to both males and females, while the Y normally causes maleness. We studied in detail one family where two brothers had 46,XX female chromosome patterns and one of the two, the propositus, was a true hermaphrodite. The father's brother, a phenotypic potent male but azoospermic, also had the 46,XX sex chromosome constitution. A younger brother of the propositus and the father had a 46,XY karyotype. The data suggested that there were two separate male determining loci in the family: the Y chromosome, and a functioning autosomal locus. Based on these data and findings in another study, it was suggested that the normal Y chromosome might regulate or 'turn on' another locus for testicular differentiation, which would then start male differentiation.[1, 2]

* From the Department of Medicine, Division of Endocrinology/Metabolism, USC School of Medicine and William Jennings Bryan Dorn Veterans' Hospital, Columbia, S. C.

** Reprint requests to Dr. Nankin, Professor and Director, Division of Endocrinology/Metabolism, Department of Medicine, USC School of Medicine, VA Enclave, Columbia, S. C. 29201.

In-utero Development: By the sixth week of gestation, the undifferentiated gonad in the human male undergoes development of the medullary portion and the cortical portion becomes the fibrous capsule of the testis called the tunica albuginea. Between the sixth and sixteenth week, the testis performs three major functions: (1) a non-steroid produced by the developing seminiferous tubules inhibits the Mullerian system (the precursors of the fallopian tubes, uterus, the upper third of the vagina); (2) testosterone itself, produced by the fetal Leydig cells, directly stimulates formation of the Wolffian system (the epididymis, vas deferens, and seminal vesicle); and (3) in the undifferentiated external genitalia, testosterone is converted to dihydrotestosterone, which causes the genital tubercule to become the glans penis, the genital folds to form the fused shaft of the penis, and the genital swellings to form the scrotum. In male infants who are lacking the enzyme 5-alpha reductase, external male development may be absent or reduced.

The two tropic hormones, luteinizing hormone (LH) from the fetal pituitary, and human chorionic gonadotropin produced by the placenta, are both effective in stimulating the Leydig cells (interstitial cells) to make testosterone. Chorionic gonadotropin crosses the placenta and enters the fetal circulation. It is not clear at present which hormone is primarily responsible for

stimulating the fetal gonad. Follicle stimulating hormone (FSH) is the second gonadotropin produced by the pituitary, and is primarily responsible for stimulating the Sertoli cells, the important cells within the seminiferous tubules which appear to regulate spermatogenesis. Shortly after birth, as chorionic gonadotropin titers fall to zero, there is an increase in LH, peaking at about three months of age, and this is associated with a rise in circulating testosterone in infant boys. By six months or so, testosterone and LH titers decline to low but detectable levels until the onset of puberty.

Precocious Puberty: By definition, precocious puberty is any sexual maturation in boys before the age of 10 years. Precocious puberty is more ominous than delayed puberty in boys (the reverse is true in girls); approximately 60% is associated with significant organic pathology including posterior hypothalamic tumors, gonadotropin-producing tumors of the liver or testes, adrenogenital syndrome, or androgen-producing tumors. Hypothyroidism and polyostotic fibrous dysplasia can also result in early puberty.

Puberty: What causes sexual maturation to occur is not clear. Data available in both sexes suggest that the hypothalamic sensing mechanism which appears to be exquisitely sensitive to very low circulating titers of sex harmones (testosterone and estradiol) becomes less sensitive as puberty starts and progresses. The hypothalamic-pituitary complex produces more LH and more FSH which then stimulate the gonads.

The first change in pubertal boys is slight testicular enlargement, secondary to FSH stimulation of seminiferous tubules. Thereafter, Leydig cell production of male hormone stimulates penile growth. Puberty takes approximately three years to complete. Any boy who does not start sexual maturation by his sixteenth birthday, and any young man who has not completed sexual maturation by age 19 is defined as having delayed puberty.

In a study of 726 black and white boys and girls between ages of 10 and 18, we found that the daytime gonadotropin patterns with maturation were similar in black and white male groups. LH concentrations increased progressively with maturation and probably did not reach adult levels even in the group of young men who appeared to have complete sexual maturation. FSH reached adult levels by mid to late puberty in both races. FSH approximately doubled with maturation in males whereas LH rose by two or three-fold.[3]

Commonly, endocrinologists see in consultation teen-aged boys for the purpose of assessing the potential of sexual maturation. Often, these youngsters are at early maturation without accurate documentation of progression. In an attempt to devise a clinical test for predicting which youngsters will mature, we administered clomiphene citrate to a 15-year old boy at mid-puberty and 11 months later when he was in late puberty. Clomiphene is a drug which in adult men and women stimulates gonadotropin release from the pituitary, which then stimulates the gonads to release more sex hormones. Clomiphene administration caused no increments in gonadotropins or sex hormones at mid-puberty; however, at late puberty there were statistically significant increases in LH, FSH, and testosterone. Therefore, clomiphene appeared to be an ineffective stimulator of gonadotropin release until advanced puberty became clinically evident.[4] Subsequently, other workers confirmed this finding.

Delayed and Absent Maturation: Kallmann's syndrome occurs in both sexes and appears to be due to failure of hypothalamic function, associated with abnormal or absent sense of smell — due to olfactory bulb dysgenesis or agenesis. These individuals lack hypothalamic gonadotropin-releasing hormone (GnRH), and are consequently deficient in both gonadotropins. Some of these individuals have exostoses, strabismus, and spina bifida occulta. Some of the women have been made fertile with courses of human menopausal gonadotropin, but I am not aware of induced fertility in afflicted men.

Klinefelter's syndrome occurs in one in 400 or 500 live male births and is associated with 1 cm testes. While the overt patient is relatively easy to diagnose, the mosaic varieties may be more difficult to detect. In 1973, we asked to see a muscular 19-year old white male because of testes which were 2.5 cm in longest diameter and the young man had been pubertal for more than three years. He had a normal-sized phallus, and had no glandular breast tissue. The hand dermatoglyphics, carrying angles and general habitus were otherwise unremarkable except for leg varicose veins. He had moderate mental retardation (I.Q. 75). We found that his LH levels were slightly above normal, that FSH levels were

markedly elevated, and that his testosterone levels averaged about 200 ng/dl (normal adult 350-1100). Elevated gonadotropins are common in Klinefelter's syndrome, and indicate testicular failure. On performing lymphocyte chromosome karyotype analysis, we were surprised to find that he was 48,XXY, G+, or a young man who had both Down's syndrome and Klinefelter's syndrome. These two disorders occur together more commonly than by chance alone, and when they occur together the manifestations of both disorders are milder than if either one occurred alone. The clue to this man's problem was that his testes had not fully grown (>4 cm) after over three years of puberty.[5] Thus, it is important to make certain that the testes fully develop during puberty.

Occasionally, male youths will have an isolated deficiency of gonadotropins. Such youngsters are virtually impossible to differentiate from benign delayed puberty. If there are appropriate reasons, these 14-15 year old or older youngsters are treated with intramuscular testosterone, beginning with low doses (50 mg im of a long-acting preparation given every two weeks) and gradually increased to 100 mg every two weeks. There is some evidence that testosterone therapy will hasten the appearance of puberty in boys with delayed maturation. After approximately six months, the testosterone is withdrawn to see if spontaneous puberty has occurred. If puberty does not occur, testosterone may be resumed. The medication can be withdrawn at 6-12 month intervals for reassessments. Full replacement doses are 150-200 mg every two weeks.

Circulating Patterns of LH and FSH in Men: One of my students was interested in learning laboratory procedures and we devised a small project for him. Daily blood samples were drawn from two male volunteers for one month, which he analyzed for both LH and FSH. The results indicated that FSH levels remained constant, but that there could be large variations in circulating levels of LH in the same individual.

In 1971, we reported for the first time that in four young-adult males, sampled every 15 minutes between 6 a.m. and 6 p.m., LH demonstrated a pattern of repetitive abrupt elevations occurring every 2.3 hours and the ratios of highest peak values to lowest values ranged from 2.1 to 2.9. A followup paper was published one year later where the same four men were studied overnight from 7 p.m. to 7 a.m. The elevations went as high as five times greater than the basal. In this small group of individuals, the highest peak LH values were found between 3 a.m. and 7 a.m. LH never fell to nondetectable levels. Thus, the pattern for LH discharge appeared to be pulsatile elevations superimposed on tonic discharge. These data and other sampling studies were summarized in a review article published in 1974.[6]

In prepubertal youngsters and accentuated during puberty, both boys and girls show marked elevations in LH when asleep. Two groups demonstrated that LH rose several fold with the onset of sleep in both sexes, which in boys was associated with a secondary rise in testosterone. This physiologic pattern is the basis for obtaining nighttime blood specimens from youngsters to see if LH increases and in young boys testosterone elevations would be expected also. The large majority of more recent studies have shown that both LH and FSH circulating concentrations in older normal men are the same during the daytime and during sleep. I believe that our 1972 study, where young adult males were used (23-26 years) may represent a last remnant of the accentuated nighttime elevations. For an accurate assessment of circulating LH in men, most authorities draw three separate specimens, either 30 minutes apart or on separate days.

Gonadotropin-Releasing Hormone Studies: In four normal men, the iv administration of 100 μg of GnRH resulted in a rise of LH with a peak value 30 minutes later, which was approximately three times basal and over the next six hours gradually LH fell to the control concentrations. We also attempted to characterize a rise in testosterone consequent to the LH rise. However, although there was a mean 24% increase in testosterone, it was not significantly elevated above basal for the group. One of the problems in characterizing testosterone changes is that there is a normally-occurring diurnal rhythm where levels are highest in the early morning and fall progressively throughout the day (see below).[7] As a sequel, another group of normal men were compared to infertile patients with mild, moderate, or severe oligospermia. In each infertile group, even if basal LH was not different from normal, there was an increased gonadotropin response to gonadotropin-releasing hormone. This was one of the first studies to demonstrate altered

pituitary responsiveness for both LH and FSH in men with idiopathic infertility and oligospermia. These data are consistent with abnormal testis feedback regulation for both gonadotropins.[2] Gonadotropin-releasing hormone has undergone extensive studies in prepubertal youngsters, pubertal individuals, normal adults, and individuals with gonadal failure. The responses in prepubertal and pubertal youngsters are less than in adults. In people with primary gonadal failure, responses tend to be augmented.

We anticipated that the administration of GnRH to sexually immature 28-day old male rats would cause increased release of LH and accelerate maturation; however, treatment for one or two weeks significantly decreased weights of all accessory sexual organs. On preparing cell-free homogenates, we found that Δ^4-5α-hydrogenase enzymic activity was markedly increased in those animals treated with the releasing factor, resulting in reduced formation of Δ^4-3-oxo androgens. This was the first published study to show that GnRH could deleteriously affect gonadal function.[8] There have since been studies showing that GnRH and more potent analogues of this material can deplete the pituitary of gonadotropins, can cause enhanced release of gonadotropins causing depletion of gonadotropin receptors on gonads, and gonadotropin-releasing hormone may also directly inhibit gonadal function. Analogues of this material are undergoing trials as male contraceptives and also for use in treating testosterone-dependent prostate carcinoma.

Diurnal Pattern to Circulating Testosterone: In 1975, in our first report studying the biological rhythm for testosterone, we confirmed that testosterone concentrations in adult men have a diurnal rhythm with superimposed random fluctuations. Virtually all current studies suggest that mean testosterone concentration falls by approximately 20% between early morning (6-9 a.m.) to late afternoon-evening.[7] Reference laboratories standardize their normal ranges using early morning specimens. Thus, it would be preferable to obtain these specimens in early morning rather than in late afternoon where borderline low results would be subject to question. More recently, we performed a series of studies in an attempt to learn the mechanism behind the testosterone diurnal rhythm. We gave human chorionic gonadotropin intramuscularly in a dosage of 40 IU/kg of body weight, as a single injection to peform acute (1-6 hours) and chronic (24, 48, 72, and 96-hour) studies in men. Initially four men got the injection first in the morning and another four got the injection first in the late afternoon. One month later the injections were repeated but the times were reversed. We found that in the morning testosterone rose to a peak at two and three hours and then declined significantly, but testosterone was still significantly above the baseline at six hours. In the same men, given the gonadotropin injection at 5 p.m. the elevation plateaued between two hours and six hours. The 2 and 3h acute peak levels in the morning were significantly greater than the corresponding times in the evening. After six hours the time of day did not influence testosterone concentrations and levels rose further. What could cause early morning enhanced responsiveness? In sleeping adult men prolactin and growth hormone are released into circulation in increased amounts. Animal studies reveal that appropriate concentrations of both of these pituitary hormones can positively influence Leydig cell responsiveness to gonadotropin. This may also be responsible for better Leydig cell early morning responsiveness.[9]

Reproductive Function in Aging Men: Virtually all of the reports demonstrate that both gonadotropins increase progressively with aging. Most studies report that circulating levels of testosterone gradually fall with advancing years. However, there is usually much variation in a given age group. Recently, there have been two reports on circulating testosterone levels in unusually fit and vigorous older men, and in these two studies, basal circulating titers of testosterone were not significantly different in the men over age 65 when contrasted with men between ages 20 and 40. More recently, we have completed studies in healthy men between ages 65 and 86 years and compared the results to a population of 22-42 year old healthy individuals. Testosterone and the androgen precursor 170H-progesterone basal concentrations were both higher in the younger population but the differences were only borderline significant. Similar diurnal rhythms were found for the young men and the older men: testosterone fell by about 15%, while 170H-progesterone fell by 35% in both groups. Next we gave nine elderly men standard injections of human chorionic gonadotropin (40 IU/kg, im) and evaluated the early (1-6

hour) and late (24, 48, and 72 hour) responses. The responses in the older group were clearly much less than the responses found in the younger men — when analyzed on absolute rises or on percentage rises. Thus, in older subjects the Leydig cell is failing and is unable to respond as well to a standard stimulation test. Studies in our laboratory suggest that the defect in Leydig cells from old rats is between cyclic AMP and the conversion of cholesteral to pregnenolone — most probably in the mitochondria. Investigations are underway to more precisely identify the aging defect(s).[10]

Male Infertility: An estimated 15% of all U. S. married couples fail to conceive after two years of attempted conception. In some couples, the cause of infertility resides with the wife, while in other couples the primary reason for reproductive failure rests with the husband and in a sizeable portion of couples, both partners are subnormal. A full review of infertility is beyond the scope of this report. However, in 20-30% of infertile men LH is abnormally elevated, and/or testosterone is depressed and in some of these men treatment is usually hormonal.[2]

Sexual Dysfunction: Secondary impotence with normal libido becomes increasingly common as men reach the fifth and sixth decades of life. While psychologic causes are very frequent in young men, organic problems (often resulting in psychologic difficulties) appear to be more common in our preliminary studies of older men. The common etiologies in relatively healthy men include: 1) psychologic; 2) hormonal abnormalities; 3) vascular insufficiency; 4) neuropathy; and 5) medications and drugs. A detailed review of this topic is beyond the scope of this report. However, if we can demonstrate Leydig cell failure (elevated LH and low testosterone) in elderly men who are keenly interested in restored potency, we have successfully administered im long-acting testosterone.

In Summary: Leydig cell function persists from the sixth week of gestation to death. These cells produce testosterone which: is important in embryogenesis and formation of the external genitalia; causes most pubertal changes in males; is essential for reproduction; is a potent anabolic agent; and is essential for libido and potency. □

ACKNOWLEDGEMENT

The author expresses deep appreciation to all of his collaborators, and in particular to Drs. P. Troen, T. Lin, E. P. Murono, and J. Osterman, who have been coworkers on multiple studies. Appreciation is also expressed for the secretarial support of Mrs. A. Martin.

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Space limitations preclude a more complete bibliography; however, many of the references quoted may be found in the listed citations.

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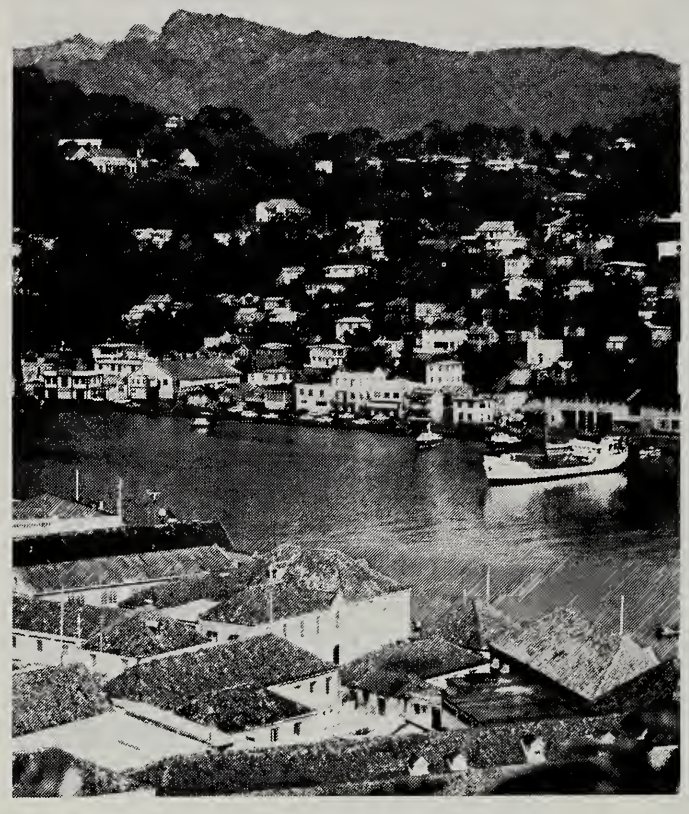

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Indications
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RESPIRATORY TRACT
- Tansillitis and pharyngitis caused by Graup A beta-hemalytic streptacacci
- Branchitis and pneumania caused by *S. pneumaniae* (farmerly *D. pneumaniae*)
- Otitis media caused by *S. pneumaniae* (farmerly *D. pneumaniae*) and *H. influenzae*
- Acute exacerbatian of chranic branchitis caused by *H. influenzae**
- *Though clinical impravement has been shawn, bacterialagic cures cannat be expected in all patients with chranic respiratary disease due ta *H. influenzae*.

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptocacci and staphylacacci, nonpenicillinase producers.

URINARY TRACT INFECTIONS caused by *E. cali* and *P. mirabilis*. (This drug shauld nat be used in any *E. cali* and *P. mirabilis* infectians ather than urinary tract.)

NOTE: Perfarm cultures and susceptibility tests initially and during treatment ta manitar effectiveness af therapy and susceptibility af bacteria. Therapy may be instituted prior ta results af sensitivity testing.

Contraindications Contraindicated in individuals with histary af an allergic reaction to penicillins.

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Pralanged use af antibiatics may pramate avergrawth af nansusceptible arganisms. If superinfection accurs, take appraprate measures.

PREGNANCY: Pregnancy Category B. Repraduction studies perfarmed in mice and rats at dases up ta 10 times the human dase revealed na evidence of impaired fertility ar harm to the fetus due ta cyclacillin. There are, however, na adequate and well-cantrolled studies in pregnant wamen. Because animal repraduction studies are not always predictive af human respanse, use this drug during pregnancy anly if clearly needed.

NURSING MOTHERS: It is nat knawn whether this drug is excreted in human milk. Because many drugs are, exercise cautian when cyclacillin is given ta a nursing waman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with ather penicillins, untaward sensitivity reactions are likely, particularly in thase wha previously demanstrated penicillin hypersensitivity ar with history of allergy, asthma, hay fever, ar urticaria. Adverse reactians reparted with cyclacillin: diarrhea (in apprawimately 1 out of 20 patients treated), nausea and vamiting (in apprawimately 1 in 50), and skin rash (in apprawimately 1 in 60). Isalated instances af headache, dizziness, abdaminal pain, vaginitis, and urticaria have been reparted. (See WARNINGS) Other less frequent adverse reactions which may accur and are reparted with ather penicillins are anemia, thrambacytapenia, thrambocytapenic purpura, leukapenia, neutrapenia and easinaphilia. These reactions are usually reversible an discantinuatian af therapy.

As with ather semisynthetic penicillins, SGOT elevatians have been reparted.

As with antibiatic therapy generally, cantinue treatment at least 48 ta 72 haurs after patient becames asymptamatic or until bacterial eradicatian is evidenced. In Graup A beta-hemolytic streptacaccal infections, at least 10 days' treatment is recommended ta guard against risk of rheumatic fever ar glamerulanephritis. In chranic urinary tract infectian, frequent bacteriaalagic and clinical appraisal is necessary during therapy and passibly far several manths after. Persistent infectian may require treatment far several weeks.

Cyclacillin is nat indicated in children under 2 months af age.

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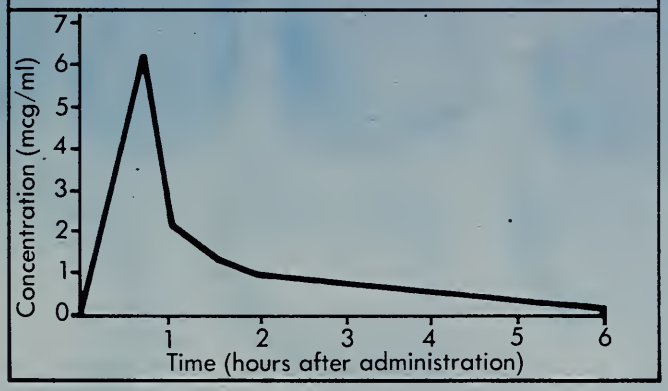

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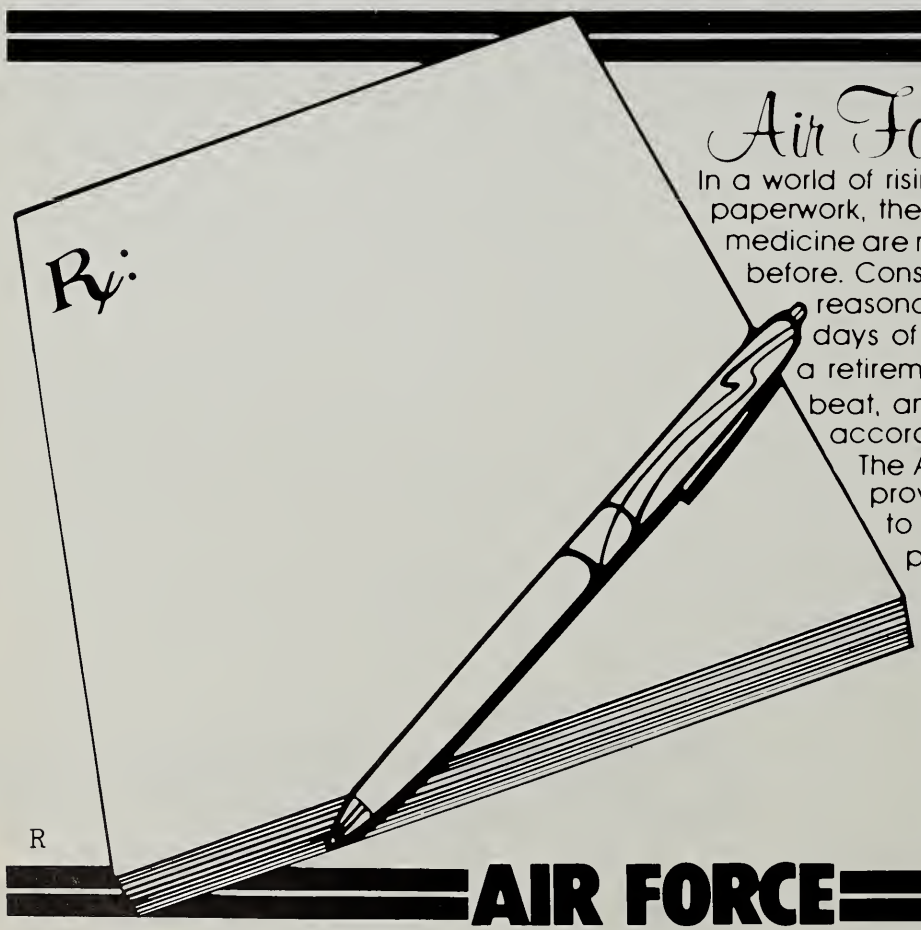

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AIR FORCE

MASS PAP SMEAR SCREENING IN COLUMBIA, SOUTH CAROLINA*

MERRILL A. ANDERSON, M.D.
SANDRA PAYNE, R.N., M.S., F.N.P.

In April of 1972, the first mass Pap smear screening program in Columbia, South Carolina was conducted under the direction of Thomas G. Rowland, M.D. Ruth Patterson, Area Director of the Richland County Unit of the American Cancer Society, and Harriett Woodham, a representative from the Junior Women's Club of Columbia and Chairperson of the 1972 Pap smear clinic. This mass screening has been repeated annually since that time. Funding for this program was provided by the American Cancer Society.

The primary objective of the program was to provide free of charge, a Pap smear and rectovaginal pelvic examination to women who had either never received a Pap smear or had one infrequently. Blood pressure screening was also available to participants as well as a slide presentation on self breast examination. Beginning in 1978, the breast examination was included as part of the screening program.

The overall goal in the mass screening was to educate women in the community of the importance of making the Pap smear part of their health care maintenance.

The program was publicized through television, newspapers, radio, letters to local industry, and businesses, and by distribution leaflets and posters to underserviced populations.

Nurses and volunteers from the community and members of the Junior Women's Club volunteered to participate in a two-day clinic. Pathologists from Richland Memorial Hospital, Baptist Medical Center, Providence Hospital, Moncrief Army Hospital, Lexington County Hospital and the Medical University of South Carolina volunteered to interpret the slides.

* From the Department of Family Medicine, University of South Carolina School of Medicine, 3301 Harden Street, Columbia, S. C. 29203. Additional data pertaining to this study can be obtained from the authors.

Since 1972, 6,865 Pap smears have been interpreted. Patients with unreadable smears were contacted and the smear was repeated.

METHODS

Pap smears were done over a two-day period each year. The smears were obtained mostly by community OB specialists, but in later years OB/GYN residents, Family Practice residents, and Family Practice physician faculty were involved. When breast exams were introduced they were done by nurse practitioners and any abnormals were checked by the physicians. Pap smears were read by pathologists at the five hospitals. Patients with abnormal smears were contacted and referred for follow up either to private physicians or to clinics.

RESULTS

A total of 6,981 patients were screened. 6,865 Pap smears were actually taken. One hundred and sixteen patients either refused to have Pap smears or were excluded because of their young age. 3,246 (46.5%) were white patients and 3,735 (53.5%) were non-white. 21.1% of the smears were a first time Pap according to the history obtained from the patient. 92.1% of the smears were read as Class I. 7.2% were read as Class II. Class III, IV and V were 0.55%, 0.2% and 0.1% respectively. The combined Class III, IV and V were a total of 53 smears or .77% of the total.

We evaluated the follow up of the patients with Class III, IV and V's. Unfortunately, pathology reports on surgical specimens were not available to the authors. Although some patients refused treatment, no patient was lost to follow up. Of the 53 patients in Class III, IV and V, 29 or 54.7% had hysterectomies. These 29 constitute 0.4% of the total Pap smears done. It is also important to note that 40 out of 53 (75.3%) of the patients with Class III's, IV's and V's previously had Pap smears. The time interval between their previ-

ous Pap smear and abnormal Pap in this screening is not available.

The results of the screening are comparable to other mass screening in urban areas.[1, 2] However, our total abnormals, Class II through V, are higher (7.86% vs 2.54%) than reported by the Family Practice Clinics and OEO Clinics in Arkansas, in 1971-73.[3] Class III's and IV's are comparable; however, Class V's were not reported in that study.

DISCUSSION

Several weaknesses in the data collection and record keeping of the program were identified by the authors. Demographic data on each participant were collected on a legal release form. Over the years these forms were either lost or destroyed so that it was not known when patients with abnormal smear were last screened. It was also not known which patients returned annually to the free clinic so that the total number of individuals screened could not be identified. Unfortunately in some years, ages of patients were not kept.

When the program was developed, there was no method included to be able to track individual patients with abnormal Pap smears. As a result of this failure, an opportunity to develop potentially valuable tracking data was lost.

RECOMMENDATION

Community wide screening using volunteers is a feasible and worthwhile method to detect cervical cancer, especially in an underserved population. A method of follow up is essential. We recommend also a method of record keeping be developed which should always include the patient's age and date of previous Pap smear. A method of tracking all patients would be highly desirable. A method to record final tissue diagnosis in patients where biopsy and/or surgery is performed would supply valuable information for further follow up of these patients.

We encourage communities, especially in underserved areas, to develop mass screening Pap smear programs using volunteer personnel. These programs, however, to have maximum benefit, should have a method of recording and tracking epidemiologic data should be developed prior to the initiation of the programs.

SUMMARY

A free mass Pap smear screening program was undertaken and has been repeated yearly for seven years. The results of 6,865 smears are presented.

7.2% were Class II and 0.77% or 53 smears were Class III, IV or V. No patients were lost to followup.

Some areas of difficulty in data collection and record keeping are identified.

It would appear that mass Pap smear screening, especially for underserved urban population is feasible using volunteer personnel. □

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NON-TUBERCULOUS MYCOBACTERIA IN SOUTH CAROLINA, 1971 TO 1980

MICHAEL A. KRAJNACK, M.P.H.*
HAROLD DOWDA, PH.D.**

Tuberculosis was recognized as a serious and common disease throughout the recorded history of mankind, but it was not until 1882 that *Mycobacterium tuberculosis* was identified as the agent of the "great white plague." It soon became evident that organisms related to but not identical with *M. tuberculosis* could be isolated from lesions in human beings. As tuberculosis was a major cause of mortality in the late 19th and early 20th centuries, these "atypical" mycobacteria were usually ignored as contaminants not capable of causing human disease. However, the early years were not without controversy concerning the role of the atypical mycobacteria in diseases of human beings and other animals. Among the most important was the controversy in 1898 wherein Robert Koch at first rejected and then concurred in the findings and opinions of the eminent American microbiologist Theobald Smith that *Mycobacterium bovis* could cause disease in bovines and in human beings. By the 1930's and 1940's, the relationship of the "atypical" mycobacteria and human disease was well-enough established that a number of case summaries had been published, and it was essential that the biology and taxonomy of these organisms be elucidated. In the 1950's, the work of Ernest H. Runyon and others resulted in a system for the classification of the non-tubercular mycobacteria (NTM). This system divided the "atypical" mycobacteria into four groups based on pigment production, rate of growth, colonial morphology and biochemical reactions. Subsequently, the various mycobacteria were assigned species status. However, this work is still the basis for the present system of classification and many physicians know these agents by their group designations rather than by genus and species. Since the various groups contain both pathogenic and saprophytic species, it is important to know the specific orgamism isolated from the patient. The common pathogens in Group I include *M. kansasii* and *M. marinum;* Group II includes *M. scrofulaceum;* Group III *M. avium-intracellulure* (Battey bacillus), *M. xenopi* and *M. ulcerans*, and Group IV *M. fortuitum.* It is desirable that the NTM be identified to the species level as most species are extremely resistant to antimicrobial therapy and early surgical intervention may be indicated to control the patient's disease. Identification services are available from several institutions in South Carolina.[1]

The ability to distinguish between pathogenic and non-pathogenic mycobacteria permitted treatment of those individuals with infection and withholding therapy in those patients who were colonized by a saprophytic species or those without evidence of disease. In addition to more appropriate therapy of patients with infections, specific identification permitted epidemiological studies to determine the distribution and incidence of the various species of mycobacteria. In this regard, the NTM have been studied in South Carolina for over twenty years. An analysis of the occurrence of the NTM in South Carolina, published in 1965 by Eleanor Townsend and her associates, documented the occurrence and distribution of the NTM organisms for the period 1960 to 1964.[2] In the fifteen years since that study, considerably more has been learned about

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* This study was performed in the academic year 1981 in partial fulfillment of the requirements of the M.P.H. degree in the Department of Epidemiology and Biostatistics, School of Public Health, University of South Carolina.

** Reprint requests to Dr. Dowda at the S. C. Department of Health and Environmental Control, P. O. Box 2202, Columbia, South Carolina 29202.

the occurrence and distribution of this significant group of organisms. An excellent review of the clinical presentation, identification and treatment of NTM infections is available.[3]

It is the purpose of this paper to summarize the data concerning the occurrence and distribution of the NTM in the State from 1971-1980, and to compare these results with previously published data.

MATERIALS AND METHODS

The data in this study were obtained by retrospectively examining the patient records of the Mycobacteriology Section, Bureau of Laboratories, South Carolina Department of Health and Environmental Control, for the period January 1971 through December 1980. To be included in this study, a patient must have had three or more specimens of respiratory material or urine positive for the same organism. Patients with less than three positive specimens were included only if the isolation was made from a normally sterile, closed site (CSF, plueral fluid) or from a biopsy (cutaneous, lymph node).[4] An unknown but minor proportion of the patients reported in this study may have had disease due to the NTM concurrently with or subsequent to infection with *Mycobacterium tuberculosis.*

Basic demographic data were obtained from patient records. Age at onset of disease was considered to be the patient's age when the first culture was submitted, and county of residence was the county in which the patient was residing at the time the first culture was submitted. Incidence rates for the ten year period and for each individual year in the period were determined using accepted techniques and were calculated for ethnic group, sex and county of residence. The population data used in this study were from estimates prepared by the Division of Research and Statistical Services of the South Carolina Budget and Control Board.

Cultures were identified to the species level using conventional criteria and techniques.[5] Species in the closely related *M. avium-intracellulare* group were not further separated.

RESULTS AND DISCUSSION

A review of 2,622 patient records from whom NTM had been recovered in the ten year period under consideration revealed that 210 met the criteria for inclusion in this study. This review suggests that eight percent of the people from whom the NTM were isolated were actually infected. When the criteria for inclusion in this study were applied to the data for South Carolina from 1960 to 1963,[2] there were 93 infections in 804 (11.6%) persons from whom the NTM were isolated. This indicates that the relationship between isolations from colonized individuals and from those with disease has not changed appreciably over the last twenty years. The relatively small percentage of patients with disease compared with those who were colonized demonstrates the need for multiple cultures and careful clinical follow-up when the NTM are isolated.

During the last ten years, the incidence of tuberculosis in South Carolina has been declining,[6] while the case rates for the NTM have remained essentially the same. This relationship is illustrated in Table I. This circumstance may have resulted in a perceived increase in the number of cases of the NTM; however, the case rate for the last ten years of 20.3 new cases per year is not significantly different from the 23.25 new cases per year reported during 1960-1963.[2]

Table I
INCIDENCE OF TUBERCULOSIS AND NTM INFECTIONS 1971-1980

	Tuberculosis		NTM	
Year	Cases	Rate*	Cases	Rate*
1971	669	25.8	17	.65
1972	651	24.8	19	.71
1973	619	23.2	16	.59
1974	641	23.0	17	.61
1975	627	22.3	25	.89
1976	589	20.9	29	1.00
1977	643	22.6	28	.97
1978	563	19.6	21	.72
1979	483	16.5	16	.54
1980	520	17.4	22	.70

* Rate is expressed as cases/100,000 population.

The distribution of patients by sex and race for 1960-1963 and for 1971-1980 are summarized in Table II. Disease was encountered most often in white males who were involved in almost half the cases. White females and black males were each involved in 20 to 22 percent of the cases, and black females in seven percent of the disease in the period 1971-1980. These data are essentially the same as those from 1960-63, except for the rate in black females which was about twice as high in the earlier study. This change is unexplained. The age at onset varied from two to 89 years with over 90 percent of the cases between

40 and 80 years of age. The average age at onset was 61 years for white males, white females and black males. Black females had an average age at onset of 57 years.

Table II
INCIDENCE OF NTM BY RACE AND SEX, 1960-1963 AND 1971-1980

Group	Number of Cases 1960-1963*	1971-1980**
White males	42 (45.2)†	101 (45.7)
White females	20 (21.5)	45 (22.2)
Black males	19 (20.4)	43 (21.2)
Black females	12 (12.9)	14 (6.9)
Total	93	203

* Data from reference 2
† Figure in parenthesis is percent of total cases for period.
** 7 patients with *M. marinum* excluded because of lack of demographic data.

Five species of Mycobacterium were isolated from the 210 cases included in the study (Table III). The most commonly encountered organism was *M. avium-intracellulare* (Battey bacillus, Group III) which was recovered from 181 of the 210 patients (86.2%). It has been known for some time that infections with this group of mycobacteria were common in the Southeastern United States. Based on dermal hypersensitivity studies, it has been estimated that between 70 and 80 percent of the population in this area has been infected at some time during their life.[7] In 1960 to 1963, 84.9 percent of infections in South Carolina were due to Group III organisms (Table IV).

Traditionally, it is felt that *M. avium-intracellulare* infection is seen most often as pulmonary disease in the white male over the age of 40.[8] This view is supported by the data obtained in this study. All but two cases were pulmonary infections. The mechanism of transmission of disease due to Group III is not understood.

The second most commonly recovered organisms were *M. kansasii* (Group I) and *M. fortuitum* (Group IV) which were each isolated in 4.3 percent of the cases. The mode of transmission of these organisms is not understood, either. *M. kansasii* has been recovered from dust, soil and occasionally from water, and disease due to this organism is most common in the Southwestern and Midwestern states. *M. fortuitum* is usually associated with abscesses at the site of a trauma and has been associated with nosocomial

Table III
SPECIES OF NTM ISOLATED FROM 210 SOUTH CAROLINA PATIENTS 1971-1980

Organism	Number Isolated
M. avium-intracellulare	181 (86.2)*
M. kansasii	9 (4.3)
M. fortuitum	9 (4.3)
M. marinum	7 (3.3)
M. scrofulaceum	4 (1.9)

* Figure in parenthesis is percent of total cases.

Table IV
DISTRIBUTION OF NTM ORGANISMS BY RUNYON GROUP 1960-1963 AND 1971-1980

Runyon Group	Number of Cases 1960-1963*	1971-1980
I	0 (0)†	9 (4.3)
II	12 (12.9)	11 (5.2)
III	79 (84.9)	181 (86.2)
IV	2 (2.2)	9 (4.3)

* Data from reference 2.
† Figure in parenthesis is percent of total cases.

infection following injection of contaminated medications or insertion of contaminated prosthetic devices. The organism is highly resistant to chemotherapy and surgical intervention is commonly required to cure the disease.

M. marinum (Group I) was recovered from seven of the 210 patients (3.3%). Infection with this organism usually involves a cutaneous granuloma and has been associated with both fresh and salt waters. The association with water is so well-established that the term "swimming pool granuloma" is often applied to infections by this organism. In this series of patients, six individuals had cutaneous infections and one had joint disease. The importance of water as a source of infection by this organism is reinforced by the fact that five of the infections were from Charleston County and two from other areas of the state. Infections caused by this organism respond poorly to antimicrobials and exision of the lesion is often necessary. Demographic information on these patients was, unfortunately, unavailable, and these cases are omitted from those comparisons (Table II) dealing with age, race and sex. With the predominance of infections in Charleston County, it was worth noting that if these infections are deducted from other infections due to NTM agents, the incidence of disease in Charleston County as shown in the figure is re-

duced from 0.77 new cases to 0.50 new cases per 100,000 population per year.

M. scrofulaceum (Group II) was recovered from four patients. Two of these patients had pulmonary disease, one had meningitis and there was a single case of lymphadenitis. The organisms usually infect the lymphatics in children and colonize old tuberculosis cavities in adults. Repeated isolation of the organisms has been taken as an indication of secondary infection.[8] The mode of transmission is not known, but in children it may involve ingestion of the organisms. *M. scrofulaceum* is closely related to the *M. avium-intracellulare* group.

Disease due to the NTM has been detected in all geographic areas of the state. The figure illustrates the incidence of infections due to the NTM in various counties in South Carolina. The residences of patients with infection due to these organisms are most concentrated in a band through the central portion of the state from Aiken to Chesterfield Counties. The incidence of disease in the extreme upcountry and along the coast is relatively low with certain exceptions. It is interesting to note that most cases of disease due to the NTM in South Carolina occur along or either side of the prehistoric coastline of South Carolina (the "Fall Line"). This area in South Carolina demonstrates an abrupt change in the type of geology present. Whether or not this has any influence on the biology of the NTM organisms is unknown. The NTM organisms have been recovered from soil, dust and water and it is possible that the natural environment of the areas along the Fall Line are such that they are conducive to the presence of large numbers of these organisms, but this is unsubstantiated. Group III organisms have been isolated from seawater off the Southeastern Atlantic Coast including North Carolina, South Carolina and Georgia with highest recovery in less saline inshore areas.[9] The major areas of NTM disease in South Carolina are inland, so the relationship between organisms in seawater and human disease in South Carolina is not obvious. In addition to isolations from seawater, the organisms have been recovered from a variety of domestic animals and environmental sources including swine, chickens, cattle, milk and soil. An animal or environmental source for infection is supported by the fact that most infections occurred in this study in rural counties and the disease is known to occur more frequently in rural areas.

This study indicates that there has been no significant increase in the incidence of disease due to the NTM in South Carolina during the last ten years nor when current data are compared to studies performed in the early 1960's. The tendency for case rates to remain steady has been noted in various areas of the world, but in at least two cases, significant increases in the instance of disease due to the NTM have been documented.[3] Infection with these agents can represent a double dilemma: diagnosis and therapy. It is essential when these organisms are encountered that they not be automatically relegated to the status of contaminant, but that a combination of careful clinical judgement and additional cultures be used to determine whether the patient may be infected with the organism. □

ACKNOWLEDGEMENTS

This paper is respectfully dedicated to Miss Gene N. Lindler and Mrs. Lois Compton whose knowledge of and interest in "atypicals" inspired this work.

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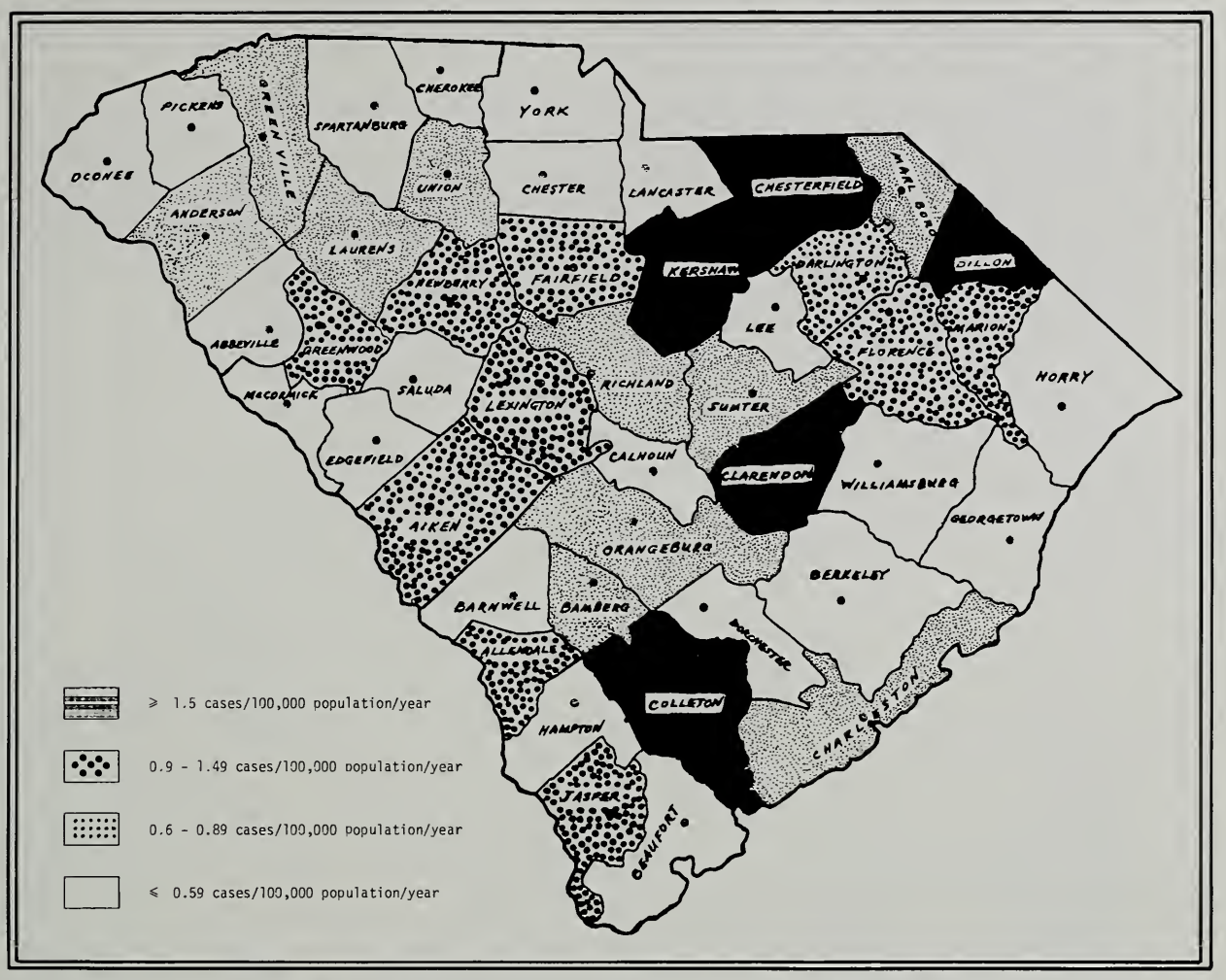

FIGURE 1. Incidence of NTM Infections in South Carolina 1971-1980.

When painful spasm is the presenting symptom...

SCMA NEWSLETTER

November, 1981

WORKSHOP REPORTS - COUNCIL RETREAT

During extensive meetings at the Isle of Palms, September 25-27, 1981, the SCMA Council conducted workshops on the continuing problem of professional liability, and on the Association's relationships with its subsidiaries, affiliates and outside organizations. This special edition of the SCMA "Newsletter" presents summarized workshop reports and the SCMA's future plans resulting from Council's recommendations.

****

PANEL DISCUSSION AND WORKSHOP ON PROFESSIONAL LIABILITY

In a panel discussion Chaired by *Donald G. Kilgore, Jr., M. D.,* Council heard the report of the Ad Hoc Committee on Professional Liability which had considered all the available options regarding professional liability insurance in the state. The advantages and disadvantages of each of the following were presented: *The Joint Underwriting Association; an SCMA physician-owned insurance company; commercial insurance carriers such as CNA; an outside physician-owned insurance company; and St. Paul Fire and Marine Insurance Company.*

Participants in the workshop which followed were: *Dr. Kilgore, Chairman; and Doctors Frank Biggers, Bart Barone, Mims Mobley, Waitus Tanner, Gavin Appleby and Sidney Fulmer.* Council approved and endorsed their recommendations as follows:

1. *That the SCMA should continue to support the JUA and to work with the JUA to strengthen it, both financially and in its serviceability to S. C. physicians.*

   Specific recommendations to accomplish this included urging the JUA (a) to involve the defendant physician as much as possible in each case brought against the JUA; (b) to defend as many cases as possible to discourage the frivilous law suit; (c) to join with the SCMA to inform business and industrial leaders of the cost of malpractice claims and how this cost is eventually passed on to them through the cost of health insurance benefits for their employees. It was also agreed that the assessment provision in the JUA's policy was probably in the policyholder's best interest, and that steps should be taken to alter the current annual or bi-annual extension process by the Legislature.

2. *That the SCMA should work toward a contingency plan to affiliate with an existing physician-owned insurance company or have such offer to take over the JUA should it become evident that termination of the JUA will occur.* This would assure an orderly transition of malpractice insurance coverage for South Carolina physicians.

3. *That the SCMA continue to pursue development of a Risk Management and malpractice educational program for South Carolina physicians.* These should be joint efforts of both the JUA and the SCMA, and the JUA has already indicated a willingness to help fund these programs. The SCMA Professional Liability Committee is currently evaluating tort reform measures which, if approved by the Legislature, would aid

(continued on next page)

in limiting or reducing the cost and possibly the risks of malpractice actions, and plans are already being formulated to carry out the risk management and educational programs.

4. *That the Ad Hoc Committee on Professional Liability be dissolved and commended on its excellent work in assisting to formulate and finalize SCMA's position regarding professional liability insurance for South Carolina physicians.*

MANY SOLUTIONS TO THE PROBLEM OF PROFESSIONAL LIABILITY HAVE BEEN PURSUED IN THE PAST FEW YEARS. HOWEVER, THE APPROACHES TAKEN HAVE BEEN LARGELY REACTIONS TO INDIVIDUAL PROPOSALS AS THEY ARE PRESENTED. COUNCIL FEELS THAT THE ACTIONS TAKEN ON THE ABOVE REPORT REPRESENT A MAJOR STEP TOWARD A FINAL SOLUTION TO THE PROBLEM.

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WORKSHOP: RELATIONSHIPS WITH THE S. C. MEDICAL CARE FOUNDATION AND THE SCMA MEMBERS' INSURANCE TRUST

Workshop participants: *Chairman Euta M. Colvin, M. D.; and Doctors Leonard Douglas, Davis Moise, U. Hoyt Bodie, Kenneth N. Owens, John Simmons, Randolph D. Smoak, Jr., and C. Donald Bessinger.*

Council approved the following Workshop recommendations:

S. C. MEDICAL CARE FOUNDATION

1. *That the S. C. Medical Care Foundation should continue to be maintained as a separate organization, but the relationships between the Foundation and the SCMA should be reinforced through communication and the SCMA's support of the Foundation's private review activities.*

2. *That the election process for the Foundation Board of Directors remain as it has been in the past, with Foundation members submitting nominations and Council submitting nominations on behalf of the SCMA House of Delegates.*

3. *That the President of the Foundation's Board of Directors or his designee (if a member of the SCMA) should attend Council meetings as an ex-officio member in order to maintain communication between the two organizations; and that the President of the Foundation submit an annual report to the SCMA House of Delegates.*

4. *That the SCMA express its whole-hearted support of the actions of the Foundation Board and endorse and publicize its support of the Foundation in its private review efforts.*

Members of the Foundation Board were in attendance during the Council meetings and expressed their endorsement of continued cooperation and communication between the two organizations.

SCMA MEMBERS' INSURANCE TRUST

1. *That the SCMA Executive Committee investigate the possibility of allowing the Members' Insurance Trust to develop and oversee other insurance programs to benefit SCMA members and to promote additional membership growth.* The Executive Committee's recommendations will be published at a later date when complete information is available.

2. *That the SCMA investigate ways to increase participation in the SCMA Members' Insurance Trust.*

3. *That the Board of the Trust be expanded from its current seven members to nine members, with the SCMA Council to nominate and elect Board members.*

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WORKSHOP: RELATIONSHIPS WITH THE S. C. INSTITUTE FOR MEDICAL EDUCATION AND RESEARCH, SOCPAC, AND THE S. C. MEDICAL BUILDING, INC.

Participants: *Chairman Halsted M. Stone, M. D.; and Doctors William H. Hunter, C. Tucker Weston, James Herlong, Harrison L. Peeples, Hugh Wells, and John C. Hawk, Jr.*

Approved by Council:

S. C. INSTITUTE FOR MEDICAL EDUCATION AND RESEARCH

1. *That the members of the Board of SCIMER be increased to 12 and Board membership spread throughout the state. Members' terms should be scattered, and the Board should be elected by Council.*

2. *That the Board prepare a set of Bylaws for Council approval.*

3. *That brochures be developed describing the Institute so that it might become a more aggressive and viable organization.* Council presented suggestions for consideration by the Board on ways to build up funds in the institute.

SOCPAC

1. *That the SOCPAC Board include three Directors from each Congressional District, and two additional Auxiliary members, with no limit in Board members' terms.*

2. *That a concentrated membership effort be made, including soliciting spouses of members. That the SCMA staff member responsible for SOCPAC activities travel throughout the state when the Legislature is not in session to visit with non-member physicians to solicit SOCPAC members; and that the SCMA commit itself to support of SOCPAC in order to gain 1,000 members by the first of 1982. That the possibility of workshops with SOCPAC members be considered in order to familiarize them with SOCPAC activities.*

3. *That a report from SOCPAC be included as a regular agenda item for all Council meetings.*

S. C. MEDICAL BUILDING, INC.

1. *That the SCMA recognize that the SCMB is a profit-making organization which is attempting to establish a realistic, responsible financial base from which to move forward in the best interest of the membership.*

2. *That the SCMB make a report at every Council meeting and an annual report at the SCMA Annual Meeting.*

3. *Bylaws were drawn up for the S. C. Medical Building, Inc. These were approved and presented to the Building Corporation Board for implementation. The Bylaws will serve as a basis of operational agreement between the SCMA and the S. C. Medical Building, Inc., and clearly define the authorities and responsibilities of both organizations.*

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WORKSHOP: RELATIONSHIPS WITH OUTSIDE ORGANIZATIONS

Participants: *Chairman Leonard Douglas, M. D.; and Doctors Halsted Stone, Waitus O. Tanner, William H. Hunter, Hugh Wells, and J. Gavin Appleby.*

FOR THE FIRST TIME, GUIDELINES WERE DEVELOPED AND PRESENTED FOR SCMA'S LIAISON ACTIVITIES WITH STATE AGENCIES AND ORGANIZATIONS, MEDICAL SCHOOLS, THIRD PARTY PAYORS, AND NON-PROFIT ORGANIZATIONS OF A HEALTH-RELATED NATURE. ALL OF THESE ORGANIZATIONS WERE GROUPED INTO CLASSIFICATIONS IN ORDER OF PRIORITY, AND THE APPROPRIATE SCMA LIAISON ASSIGNMENTS WERE MADE.

In the most important category including the S. C. Legislature, the AMA, the S. C. Congressional Delegation, Medical Schools, the S. C. Hospital Association, the State Board of Nursing and State Board of Medical Examiners, DHEC and DSS, Council and the Executive Committee will serve as chief liaison. Specific liaison functions of the President and President-Elect will will center on the S. C. Legislature. SCMA staff will assist where necessary and appropriate.

In the second category, which will include, among others, the Commission on Higher Education, the Chamber of Commerce, the Bar Association, the Board of Pharmacy, the Mental Health Department and the S. C. Industrial Commission, liaison will be carried out through the Commissions and the appropriate staff member.

The third category, including several state Advisory Councils, the Department of Education, the S. C. Commission on Alcohol and Drug Abuse, and the Department of Vocational Rehabilitation, will be handled by SCMA committees and staff as liaison.

In the fourth category, mostly consisting of health-related, non-profit organizations such as the Lung Association, the Heart Association and the Arthritis Foundation, the SCMA staff will serve largely as chief liaison, with assistance from physician members of the Boards of these organizations.

A method of coordinating and reporting liaison activities to Council is now being prepared.

****

Workshop participants and guests believed that the workshops had produced concise recommendations which will benefit the SCMA's relationships with its affiliates, subsidiaries and outside organizations.

MALPRACTICE LIABILITY OF REFERRING AND CONSULTING PHYSICIANS

PATRICIA M. WARK*

Physicians work closely together. It is not unusual for a physician to call in a specialist to get his or her opinion regarding a clinical problem with a patient. It is also not unusual for a consultant-specialist to work closely on a case for some time after he or she is called in and continue to work closely with the attending physician.

What is the malpractice liability for both physicians if either of them is negligent in the care they render while both are caring for the same patient? A physician may be held answerable in some circumstances for the acts of another physician even when he is free from personal negligence. This article will discuss the liability of the attending and of the consulting physician. It will not address the liability of physician-partners or the liability of a physician who calls in a substitute physician.

A physician who calls in or recommends another physician is not liable for the other's malpractice where there is no concert of action or common purpose. Concert of action means acts done by two or more people which serve to accomplish a common goal. Also, a physician is not liable for those acts or omissions of another physician who called him or her into the case unless he observed the negligent acts of the other. These two statements are general legal principles which are applied to the facts of cases brought before the Courts. Below is a discussion of the physician's liability in various factual settings.

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In *Mayer v. Higke,*[1] a young woman delivered her first child and afterwards was very sickly. She contacted her family doctor, Dr. Kauth, who called in the defendant, Dr. Higke. Dr. Higke removed this woman's right kidney and was assisted by a Dr. Foley. Dr. Kauth was present during the surgery but only in the capacity of a family physician.

This woman never improved after surgery and took a steady, downhill course. Two days prior to her death a gauze packing came out of her draining wound. The deceased's husband sued the surgeon as well as the family doctor claiming that a sponge was left in the wound during surgery. The Court found that the family doctor was not negligent in regard to any care provided during her initial surgery, and, therefore, not guilty of any malpractice.

In *Dill v. Scuka,*[2] a general practitioner was treating the patient in the hospital for a blood clot which affected the calf and foot of his left leg. Dr. Scuka asked Dr. Miles, a urologist, and Dr. Hershown, a radiologist, to perform an aortogram on the patient. Dr. Scuka was not present during this procedure. In the attempted injection of the dye into the aorta, Dr. Miles was not satisfied with the nature of the blood found in the patient and discontinued the procedure. The patient became a paraplegic due to transverse myelitis. The Court stated that Dr. Miles acted independently of Dr. Scuka and, therefore, the family physician was not found liable for any negligent acts of Dr. Miles.

In *Nelson v. Sandell,*[3] a family doctor arranged

with the defendant, a dentist, to have his patient's wisdom tooth extracted. Dr. Walsh, the family doctor, administered the anesthesia and observed the general condition of the patient. Unfortunately, the dentist broke the patient's jaw during the extraction. Both the dentist and the doctor were sued. The Court found that the family doctor was not liable for the dentist's negligence merely because he recommended him. The Court stated further that a physician is not liable if he or she calls in a surgeon and assists in the surgery by doing what he is directed to do by the surgeon, in the absence of negligence in recommending the surgeon or on his own part in assisting him.

The above cases demonstrate a very limited involvement by the referring physician with the subsequent care of the patient. However, there are many instances where a referring physician continues to care for the patient. This situation happens frequently and this is where the referring physician finds he is suddenly responsible for the negligence of the physician called into the case.

In *Sprinkle vs. Lemley,*[4] a three-year-old fractured her left femur. She was seen by Dr. Lemley, her family doctor, and he called in Dr. Rutter, a general surgeon. The two physicians put casts on both legs which extended the length of both legs. She was then put in traction with her legs extending straight up in the air at a 90° angle to her body. She was treated in this manner for about a month. When the casts were removed she had sores on her legs and she also had foot dropsy. Surgery was required for ankylosis of her left ankle.

The Court found that these two physicians acted in concert and both, therefore, were found to be negligent.

In *O'Grady vs. Wichman,*[5] the Court reached the same conclusion. This case involved a woman who had a history of low back pain. Her family doctor, Dr. Fabric, admitted her to the hospital and had the defendant, a gynecologist, brought into the case. After an examination, surgery was recommended. Unfortunately, a hysterectomy was done and the patient never consented to this surgical procedure.

The Court found both physicians could be found guilty of assault and battery. Dr. Fabric's liability was based on the fact that the patient continued under Dr. Fabric's daily care and supervision, that he called in the defendant and that he performed the surgery with Dr. Wichman. The Court also stated that Dr. Fabric was identified as the attending physician at the time of the surgery. The Court further stated that one physician could be found liable for the negligence of another physician if there was a concert of action and common purpose.

There are cases, however, which have determined that a treating family physician is not liable for the negligence of another treating physician.

In *Evans vs. Bernhard,*[6] the patient was in a motorcycle accident and had head injuries and also broke her right femur. Her family doctor, Dr. Bernhard, was contacted and he brought in an orthopedic specialist, Dr. Fridera. Dr. Fridera performed surgery with the defendant. However, Dr. Bernhard continued to treat the patient for the effects of her skull injury and her general medical care.

She was eventually discharged but required surgery six months later. Dr. Bernhard again assisted Dr. Fridera in this surgery. The purpose of this surgery was to lengthen the girl's leg. The end result of the surgery, however, was to shorten it. Both doctors were sued. Dr. Bernhard said that he was not familar with the surgery performed but that it was his opinion the patient tolerated the surgery well. The Court found that these two physicians were not acting jointly and, therefore, the defendant was not liable for any negligence of Dr. Fridera. The Court noted that liability would attach only if the family doctor observed and knowingly participated in the wrongful act or omission of the specialist.

A second case which determined no liability was *Dalhburg vs. Olge.*[7] Dr. Olge was a family doctor of the patient. The patient had signs of gastroenteritis. Dr. Olge put him on medication but twenty four hours later decided the patient had peritonitis and a ruptured abdominal organ.

He admitted the patient to the hospital and had the patient seen by a surgeon, Dr. Deogracias. The surgeon confirmed the diagnosis but never operated. The patient died of renal failure. During the hospitalization, Dr. Olge continued to visit the patient and made chart notes. He also ordered a sleeping pill one night.

Ten days after his admission. Dr. Olge ordered lab work to confirm the renal failure. Once the results were back, Dr. Olge arranged to have the

patient transferred to another hospital for dialysis.

The Court in this case decided that Dr. Olge only assumed control of this case ten days after admission. The Court also stated that there was no showing that Dr. Olge shared a legal duty with the surgeon which was breached.

There are many times when two physicians are called into a case at once and work together to care for the patient. Again, what happens if one of the physicians is negligent?

In *Wynne vs. Harvey,*[8] Dr. Clark assisted Dr. Harvey in surgery. Dr. Clark was responsible for the outside of the wound during surgery and it was later discovered that a sponge had been left in the patient. The Court found Dr. Clark not liable since he was not responsible for the sponge count or the use of them during surgery.

Not all assistants, however, are so fortunate. In *Rhodes v. Lamar,*[9] two physicians performed a tonsilectomy. During the surgery, a glass light bulb passed through the patient's throat and lodged in his lung. After some time, the problem was discovered and extensive surgery was required.

The Court found both doctors liable stating that they served together by mutual consent. They went on to state that each became liable for the conduct and wrongful acts or omissions of the other, which he observed and allowed to continue without objection, or, in the exercise of reasonable diligence, he should have observed.

In *Mutschman v. Petry,*[10] the patient had a duodenal ulcer and was hospitalized by his family doctor. This doctor called in two surgeons — Dr. Mutschman and Dr. Reighard. It was determined that a bridge in the patient's mouth and the tooth attached to the bridge should be removed in preparation for surgery. This procedure was done one day prior to the abdominal surgery.

The evening after the first surgery, the patient started twitching. The second surgery was done one day later and the patient died of tetanus two days later. The gauze used to pack the socket where the tooth was removed was cultured and tetanus bacilli grew out.

The Court found both surgeons guilty of malpractice. It was found that each diagnosed and treated the patient, each consulted with the other and each advised surgery. Each, also, was present during the surgery. Therefore, the Court found a common purpose and design in the actions of these two physicians and each shared the liability.

Finally, in *Stokes v. Long,*[11] the patient suffered a fracture of her left femur. Dr. Long administered the anesthesia and Dr. Wallin performed the reduction of the fracture. Traction was then applied to the leg attaching a 4¾ pound weight to the foot by means of a cord held in strips of surgical plaster adhered to the cast. The patient was kept horizontal in bed in this manner for six weeks. Medical testimony showed that heavier weights were needed, that the foot of the bed should have been elevated, and that x-rays should have been done periodically. The bones were not kept in good alignment and they healed improperly.

Dr. Long said he only treated the patient for the first five days and then he left town. The Court responded that the treatment during these five days was negligent and that he was a party to the negligence. He visited the patient daily during this time and examined him also.

The Court stated that where two physicians are employed on the same case and divide their services, they are not responsible for the negligence of the other. However, if one physician observes and lets go without objection a wrongful act or omission of the other physician, he is liable. If a physician lacks the necessary skill or due care and the other expressly or impliedly gives his approval, he is guilty.

A very uncomfortable situation can arise when a physician is involved in the patient's care and the other physician's care appears questionable. The Courts have consistently found that a physician's liability can be extended to that physician's negligence if the wrongful acts or omissions are observed and nothing is done about the situation. This is a heavy burden on a physician. Since there are no South Carolina cases which deal directly with this area, it is unclear how far our courts would extend liability.

Although this last case was decided in 1916, it articulates well the current thinking of Courts across our nation. The Courts, however, do not give specific guidelines in this area. It would appear, however, that some action must be taken to bring the problem to the other physician's attention. If a discussion with the physician does not rectify the problem, then further steps would have to be taken. This type of problem apparent-

ly is not a rare one. There have been cases throughout the years which have addressed it. A physician would be wise, therefore, to establish his or her own policy in this regard and deal directly with the issue when and if it arises.

It would be in a physician's best interest to make the patient's medical record reflect the scope of his or her responsibility. This can be done in a simple fashion in the Progress Notes or the Consultation Notes if one is called in as a consultant. It would be to a physician's advantage, also, to explain his or her role to the patient and the patient's family. From the cases which have been discussed, the more involved a physician becomes in the patient's care, the more important this becomes. □

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4. 243 Or. 521, 414 P2d 797 (1966).
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SPECIAL HISTORICAL ISSUE

The December issue of *The Journal of the South Carolina Medical Association* will feature medical history in South Carolina, including articles on pellagra, the Charleston earthquake of 1886, Broussais, and Dr. Joseph I. Waring. Watch for this special edition.

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President's Page

MEDICAL COMPETITION

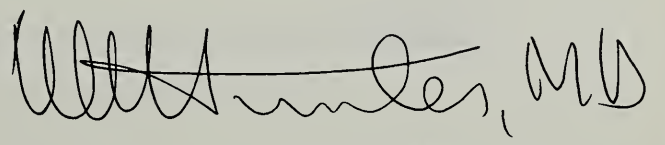
In the 1970's, we physicians heard a lot about socialized medicine or its euphemism, Compulsory National Health Insurance. The possible economics of such a disastrous move by the government proved to be rather overwhelming, so we seemed to have moved away from this idea. Since the people in Washington always seem to feel the need to interfere and plan in any private institution that's doing a good job (Meals-on-Wheels and medicine come to mind), they are once again at it. Our present administration of the free-market economic era has come up with the idea that the practice of medicine must be made competitive. How these people think that physicians are not in competition with one another is the shades of "doublethink" and "1984".

Every time I hear this thing about "competition," I have a little weak feeling inside and think of Dr. Robert Burley. Bob and I were classmates at MUSC. During our senior year one night working in the emergency room together, we looked at each other with our mouths ajar when we simultaneously discovered that we both planned to go to the small town of Clemson and practice medicine. Which we did, with separate offices at different ends of College Avenue. If you don't think we were in acute competition, then you don't know the meaning of the word. Bob is a highly intelligent, competitive and excellent physician. It was apparent from the beginning that if I were to establish a practice that I was going to have to work like hell. Which I did and which he did. Everyone in town (including the two of us) knew that if one wasn't readily available then the other was. I took my first full week off (to visit a dying friend in Tennessee) during my sixth year of practice. I suppose the best compliment that we ever received was about 20 years ago when the local undertaker (actually named Graves) said, with a smile, "You two young doctors sure have cut down on my business."

We always got along well but could never agree on fees. We did more or less agree that he would attend the Academy meetings, and I would attend the SCMA meetings. He went right to the top in the Academy and was its President, and held an important national position with the AAFP.

A couple of years ago when Bob left private practice to accept a position with the University, I experienced the ambivalence of relief versus a vacancy within from loss of competition. This didn't last long; two young, sharp and active FP's moved in down the street. I'll tell you one damn thing real quick; I don't need the government to tell me about competition.

The surplus of physicians which will occur in this decade will give us all plenty of competition. This country doesn't need the Feds and the taxpayers' money to establish a phony competition.



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Editorials

THE PAP SMEAR — HOW MANY ARE ENOUGH?

In this issue of *The Journal*, Dr. Merrill Anderson and Ms. Sandra Payne report the outcome of a mass Pap smear screening program. They demonstrate the feasibility of such a program, and state that — remarkably — no patients were lost to follow-up. Missing from the data, however, is information concerning how many actual carcinomas were detected. Thus, we have no data concerning the program's "cost-effectiveness" — which, perhaps unfortunately, has become an issue.

Some years ago, the American Cancer Society recommended that every woman over age 20 should have an *annual* Pap smear. This became accepted as a standard of good medical care and as a requisite for a complete physical examination. Many physicians questioned whether an annual Pap smear was really indicated for all women over age 20. For example, the yield of the smear in an octogenarian with a history of hysterectomy and a long series of negative smears seems almost infinitesimally small. Taking such instances into consideration, the American Cancer Society discontinued its recommendation. Confusion remains.

It has been suggested that "the American Cancer Society advocated the yearly Pap smear without any firm statistical basis, and abandoned it in the same way."[1] The premise that sexually active women with a history of an abnormal Pap smear constitute a high risk group deserving such follow-up is unquestioned. However, studies of cost-effectiveness suggest that Pap smears might be omitted in other groups of patients. For instance, in one study it was determined that only five percent of cancers would be missed if the Pap smear were obtained every three years up to age 35 and every five years thereafter. In another study, it was suggested that "few" cancers could be missed if Pap smears were discontinued entirely in "low risk" patients with two consecutive negative smears.

While this controversy will no doubt continue, we should remember that the Pap smear, like the stool guaiac determination, remains a remarkably inexpensive method for suggesting the presence of a serious disease. Therefore, efforts to make the smear available to patient groups such as those described by Dr. Anderson and Ms. Payne deserve our every encouragement.

— CSB

REFERENCE

1. Thomison JB: The once and future Pap smear (editorial). Southern Medical Journal 74: 649-650, 1981.

MALPRACTICE LIABILITY — CONSULTANTS AND PRIMARY PHYSICIANS

In a day when numerous physicians may be involved in the care of a critically-ill patient, it is not surprising to find that attorneys and courts encounter difficulty in trying to determine who might be at fault in a situation involving possible malpractice. Physicians sometimes complain that plaintiffs' attorneys tend to use a "shotgun" approach, naming everyone with any possible involvement and then allowing the various accused wrongdoers (or, as they say, alleged joint tortfeasors) to point fingers at each other.

In this issue, Patricia Wark provides the remedy. The various physicians involved in the care of a patient should indicate clearly, in the hospital record, *who* is responsible for *what*. Simple statements such as "I was asked to see the patient to evaluate the specific problem of . . . . ." or "I will no longer see the patient actively but will be on standby" clarify, tremendously, these areas of responsibility for the future reader. Often, the line between who is the attending physician and who is the consultant becomes blurred in our records; this should not be the case.

— CSB

THE NON-TUBERCULOUS MYCOBACTERIA: NEITHER "ATYPICAL" NOR "ANONYMOUS"

Dr. Harold Dowda's analysis of the non-tuberculous mycobacteria in this issue is a timely one, since much has been learned about these microorganisms since their last review in *The Journal*.

The adjective "non-tuberculous" is well-chosen. Despite the reservations about defining something in terms of what is *not* (who really likes the term, *non-A, non-B hepatitis*, for instance?), "non-tuberculous" seems more appropriate than "atypical" or "anonymous". Most of us learned these mycobacteria as the "atypical" ones. However, the mycobacteria constitute a large genus, most of whose members are ordinarily quite well-behaved. A case can be made that the bacilli which cause tuberculosis and leprosy are the "atypical" bad guys of the genus, rather than their many timid cousins. The adjective "anonymous" has been rendered obsolete by the persistence of taxonomically-oriented microbiologists. Speciation has progressed to such an extent that the familiar Runyon classification into four groups is being used less frequently.

Although we most often associate the non-tuberculous mycobacteria with pulmomary infections resembling tuberculosis, we should remember two key clinical-microbiological correlations. First, some of these microorganisms may be part of the normal flora, causing misleadingly positive AFB smears and cultures. In pulmonary tuberculosis, we are accustomed to the notion that a single positive culture establishes the diagnosis. With the non-tuberculous mycobacteria, it is usually advisable to insist upon multiple positive sputum cultures before accepting these microorganisms as the cause of pulmonary disease. AFB smears on specimens such as urine and gastric aspirates can be positive as a result of *normal* mycobacterial flora. Secondly, we must remember than many of these microorganisms *do* cause unique extra-pulmonary syndromes, and that the list of these syndromes continues to expand.

— CSB

LETTER TO THE EDITOR

To the Editor:

In a letter to the Editor published in the August, 1979 issue of *The Journal,* the known occurrence of penicillin-resistant *Neisseria gonorrhoeae* in the United States at that time was summarized. Since then, penicillinase-producing *Neisseria gonorrhoeae* (PPNG) has been encountered in virtually all of the southeastern United States. Beginning in September 1976, cultures of *Neisseria gonorrhoeae* from high risk patients (i.e., those patients with a positive culture after an adequate course of therapy) were screened by the Bureau of Laboratories for penicillinase production. Approximately 5,000 isolates have been tested and until August 1981 no penicillin-resistant strains have been found.

During August and September, seven isolates of PPNG were confirmed: one each from Richland, Lexington and Anderson counties and two each from Marlboro and Orangeburg counties. Therefore, it appears that the organism may be distributed throughout the State. Five of the seven isolates were from civilians who had sexual contact with military personnel who previously resided in areas where PPNG are frequently isolated.

Tests for the production of penicillinase are available to hospital, clinic and private practice laboratories which isolate *N. gonorrhoeae.* The only reliable method for detecting penicillin-resistant gonorrhea is to culture a specimen from the patient 7-10 days after therapy. If the culture is positive, the isolate should be tested for penicillinase production. Pure cultures of *N. gonorrhoeae* which were isolated from patients who have completed an adequate course of therapy which are submitted on Transgrow medium or chocolate agar slants will be tested for penicillinase production by the Bureau of Laboratories free-of-charge. Please mark the gonorrhea request form (DHEC 1325) "Test of Cure."

With the presence of PPNG in South Carolina having been confirmed, it is now more important than ever to encourage patients to return for follow-up examinations and cultures. Spectinomycin is the drug of choice for PPNG.

Cultures for gonorrhea are available through the county health departments, but private physicians who do not wish to refer their patients to the public clinics may obtain Transgrow medium and instructions for submitting these cultures to the Bureau of Laboratories by contacting Mrs. Carol Lock (758-4463). There is a $2.00 charge for culture of these clinical specimens.

Arthur F. DiSalvo, M.D., Chief,
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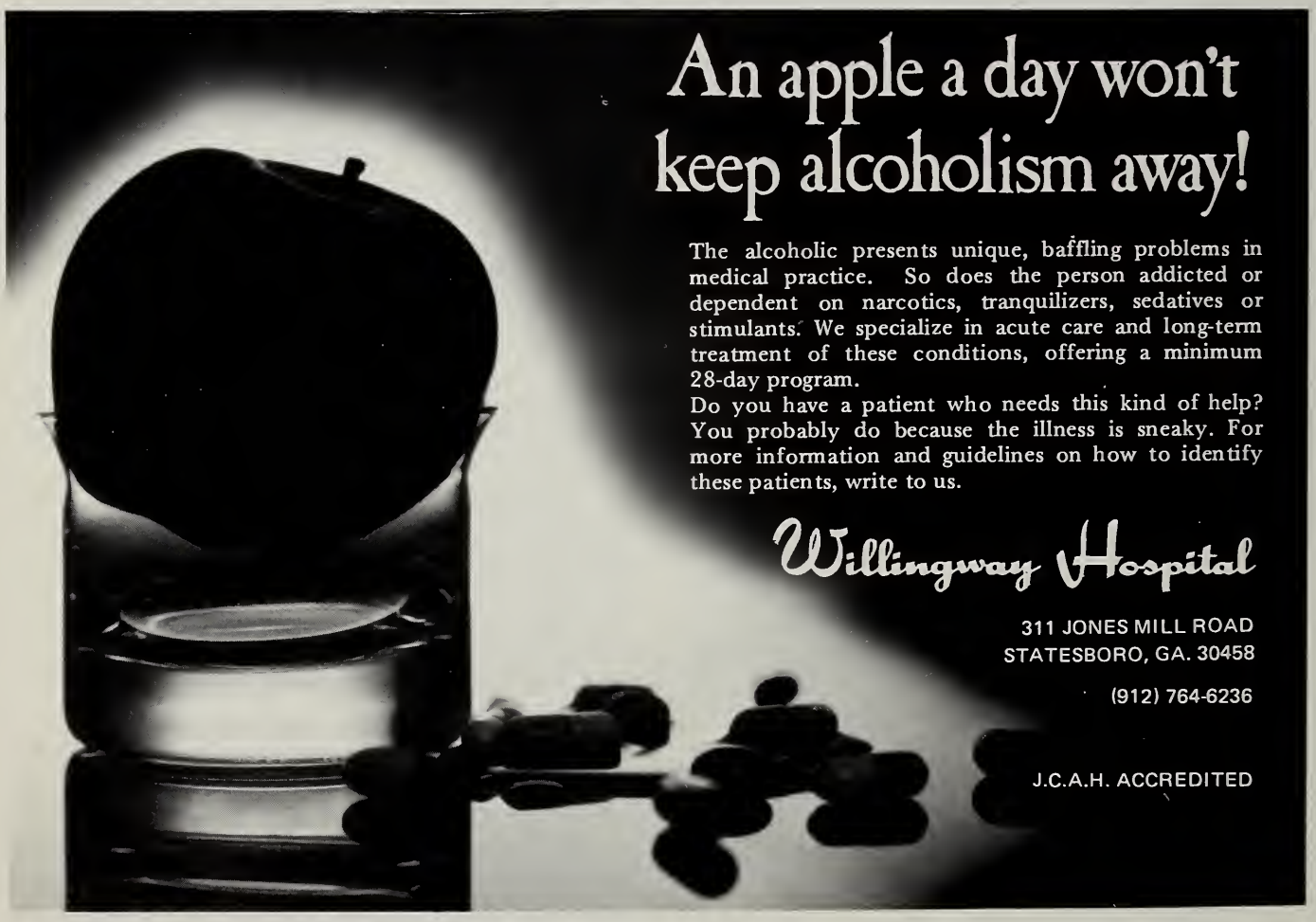

SOUTH CAROLINA MEDICAL ASSOCIATION

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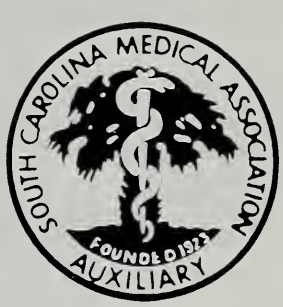

SHOULD YOU JOIN SOCPAC?

What is SOCPAC? It is the South Carolina Political Action Committee sponsored by the South Carolina Medical Association. Being able to participate in the PAC movement is one of our privileges as United States citizens, a privilege not available in most countries. SOCPAC contributes to candidates running for the South Carolina General Assembly. In the 1980 elections, SOCPAC contributed to 45 candidates for state House and Senate seats. 77% of those supported were successful.

A portion of your SOCPAC dues is forwarded to AMPAC, the American Medical Political Action Committee, which contributes to Congressional candidates. In 1980, AMPAC contributed to the campaigns of *all* successful South Carolina Congressional candidates. Nationally, AMPAC supported 385 candidates for the United States House of Representatives and 47 candidates for the Senate, 81% of whom were successful. AMPAC is truly bi-partisan: 53% of candidates supported were Republicans, 47% were Democrats. AMPAC contributed much more to South Carolina Congressional candidates than it received from our state.

In the United States, the PAC movement has mushroomed in recent years. In 1974, there were 608 PAC's which contributed $12.5 million. *Six* years later, there were 2,678 PAC's contributing $55.3 million, or one-fifth of all monies raised by Congressional candidates. Although PAC's have been criticized as special interest groups, many experts consider them a healthy addition to the political climate.

The purpose of SOCPAC is to ensure that the voice of medicine is represented in the political process. Because the PAC is organized, it allows us as individuals to know that someone is watching out for our interests. Congressman Newt Gingrich of Georgia has said, "Politics should be the process by which the country talks to itself about its future. A free society needs a free competitive system . . . Money spent on politics determines what kind of political management this country will have."

Present interpretation of Federal Election Commission regulations allows Auxilians to join SOCPAC voluntarily. Right now, South Carolina ranks 45th in membership of all the state PAC's. Mississippi ranks first. It is only through SOCPAC that our collective voice can be heard during the process of democratic selection of public officials. Don't you think it is time for you to join? Membership categories include: $50.00 individual, $75.00 family, and $100 for sustaining members. Send your check today to: SOCPAC, Box 11188, Columbia, S. C. 29211.

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From the State House: LEGISLATIVE UPDATE

December, 1981

The December Update will deal chiefly with the Chiropractic Bills and our call to action for the 1982 Legislative Session.

Chiropractic Issue

On December 1, 1981 *William H. Hunter, M. D.,* SCMA President, testified at a joint legislative hearing of the House and Senate Medical Affairs Committee in favor of H.2606 and S.636, the identical SCMA-sponsored Chiropractic "scope" bills. Also testifying in favor were six other medical representatives, four representatives from hospital groups, Blue Cross/Blue Shield (showing evidence of claims submitted by Chiropractors) and, not surprisingly, several Chiropractors themselves. Testifying in opposition were numerous "Mixer" Chiropractors, who alleged that they need to perform diagnostic procedures to properly refer medical cases. They also claim that the bills would "put them out of business." The Chiropractic Examining Board testified in opposition claiming that they would "crack down" on "bad apple" Chiropractors, although the Board Chairman admitted only one Chiropractor was currently under investigation (he did not state the reason). Opponents also ignored overwhelming evidence--especially from SCMA and Blue Cross/Blue Shield of various incidences of medical diagnoses and treatment. "Mixer" Chiropractors mostly made claims of how they were highly trained to diagnose medical problems, etc. No vote was taken by the Committee at this time.

Over thirty physicians and spouses attended the hearing to show support of our position. Special thanks must go out to those people who took a Tuesday afternoon off for this purpose.

S.636 and H.2606 provide basically that Chiropractors continue to do spinal manipulations, x-ray and superficial physical examinations, but the bill specifically prohibits the prescribing of drugs, major or minor surgery, penetrating the skin by needle or other instrument, x-ray of any organ other than the spine and invasive diagnostic tests or analysis of body fluids.

The S. C. Chiropractic Association has urged that every Chiropractor in the state contact their respective legislator immediately and lobby him/her to defeat this legislation. Their primary argument is that this legislation will put them out of business. This, of course, is not true, as most Chiropractors do not even go beyond the use of x-ray and spinal adjustment in treating their patients.

We urge all physicians in the state to contact each of your local Senators and Representatives and make the points shown below:

1) Medicine recognizes the place for Chiropractors in today's society--that of manipulating or "adjusting" the muscles of the back and its related joints and extremeties to relieve pain and discomfort.

2) Many procedures practiced by Chiropractors today are of questionable legality; however, the current Chiropractic Law is so ambiguous as to defy precise analysis. It

says in part that Chiropractors can practice "procedures generally used in the practice of Chiropractic." This ambiguous wording prevents the State Attorney General's Office from being able to clearly state the legal parameters for Chiropractic practice.

3) Newspaper ads reflect Chiropractors professing to utilize many questionable procedures (acupuncture, colon therapy, metabollic nutritional work-ups, diathermy, and ultra-sonic treatments) and profess to offer cures to areas of questionable expertise (allergies, high blood pressure, appendicitis, pneumonia and heart trouble), plus they list themselves as "Chiropractic Physicians"--all of which is illegal under our current law. This law, however, is so vague that many laymen and some Chiropractors do not realize that they are breaking laws in their practice.

The fight is on, and if we do not make ourselves heard immediately, we will soon see Chiropractors making rounds in the hospitals. Many legislators have said they have always given Chiropractors what they asked for because they never heard a contrasting voice from the physician community. This cannot happen again. Let's let them hear us loud and clear on this one.

SCAPELL Workshops Scheduled

Drs. William H. Hunter, President, *Euta M. Colvin,* President-Elect, *Fletcher C. Derrick, Jr.,* Chairman, SCMA Legislative Committee, *and C. Tucker Weston,* our SOCPAC Chairman, have worked hard to put on three SCAPELL Workshops to be held in January of 1982. These Workshops will be held in *Greenville, S. C. on January 4th at the Colonial Port Restaurant,* in *Charleston on January 11th at Roper Hospital--Irene Dixon Auditorum,* and in *Columbia on January 14th at Richland Memorial Hospital.* Entitled "Political Involvement for the Medical Community," each workshop will have a speaker from the American Medical Political Action Committee (AMPAC) and a S. C. Legislator--in Greenville, the Honorable B. L. Hendricks, Chairman of the House 3M Committee; in Charleston the Honorable Robert L. Helmly, Chairman of the Health Care Planning & Oversight Committee; and in Columbia, the Honorable Hyman Rubin, Chairman of the Senate Medical Affairs Committee.

Also scheduled with be panel discussions and questions and answers from the audience. The workshops will begin at 7:00 p.m. with supper and end at approximately 9:45 p.m. There will be a charge of $5.00 per person for the meal. All physicians and auxilians from around the state are strongly urged to attend at least one of these workshops which will focus on what is expected of the physician community at the Legislature and what the medical community can do to make its positions followed in the legislative arena.

Please contact the county medical society in your area for further information and of your intention to attend or return the form below to the SCMA, P. O. Box 11188, Columbia, S. C. 29211:

NAME _____

ADDRESS _____
Street City

WORKSHOP LOCATION _____(Greenville, Charleston or Columbia)

___ Spouse will attend. I plan to ___ enclose check for $5.00/___ pay at the door.

Doctor of the Day Program

We have not received a very good response to our request for volunteers for the Doctor of the Day Program which was published in the November Update. Please take a minute to select one day out of the 1982 Legislative Session, which begins on Jan. 13th, and call the SCMA Office at 252-6311. Physicians are needed for Tuesday - Thursday of each week during the session.

THE JOURNAL
OF THE SOUTH CAROLINA MEDICAL ASSOCIATION
VOLUME 77 DECEMBER 1981 NUMBER 12

JOSEPH I. WARING, M.D.: THE MAN AND HIS TIMES*

H. RAWLING PRATT-THOMAS, M.D.**

My recollections of Dr. Joe Waring are a kaleidoscope of pleasant memories. Preparation of this memorial was thus no labor, but a tribute of respect and affection.

I first knew him as a pediatrician. He attended my children until he divested himself of clinical practice. Two vivid memories of his clinical service persist.

I went to Dr. Joe's office on Rutledge Avenue to pick up my wife and daughter after a routine office visit. A fire engine had appropriated a large amount of space in front of the office, so parking was tight. Its presence triggered perturbation and dashing up the steps I encountered pandemonium. In the hallway, a fireman was to be seen mimicking a human fly, midway up the wall, half in and half out of a transom above one of those tall "Charleston" doors. Dr. Waring, unperturbable, was ministering to a hysterical mother while sobs and shrieks emanated from behind the door which the fireman was valiantly attempting to penetrate. The locked door was the unyielding bulwark between child and the security of its mother's arms. The child seeking relief had sought the bathroom and then either inquisitively or mischievously locked the door. Panic ensued on the part of the mother and offspring when the lock did not yield to initial coaxing and manipulation. Dr. Waring was the serene captain amidst the tempest.

On another occasion Dr. Waring came to see my daughter upon my urgent bidding. It was the era of house calls. Suffering for a few days from one of the enigmatic diseases of childhood, she had suddenly turned a rosy red — in my eyes at least vermilion. One of the burdens of being a pathologist is that there are no simple diseases, for instance, headaches are axiomatic for brain tumors and in this instance, surely my blushing daughter must have scarlet fever. Dr. Waring calmly reviewed the symptoms and the medications and then opined, "The rash is due to the phenobarbital." We had just prior to bedtime given her a small dose so that she and *her parents* might be spared the rigors of the night.

Calm, reassuring, tranquil, imperturbable — Dr. Joe.

The next opportunity to become better acquainted with Dr. Joe was in the Medical History Club, an organization tailored to his interests and personality.

In 1945, Dr. Waring wrote a poem, more correctly a collection of verses, entitled "An inquiry into the causes of the revival of interest in medical history in Charleston in the nineteen-twenties." This versification was a spoof on the founding of the Medical History Club of Charleston, one of his dedicated interests.

"Day after day, when I've finished my work,
I want to get out and get tight.
My wife locks the doors and hides all the keys,
And I'm stuck at home for the night.

The old Dean (Robert Wilson) laughed,
'that's nothing,' he said.
'You'll never be able to stray.
If it weren't for the medical school,
I wouldn't get out in the day.' "

---

* Presented at the annual meeting of the Waring Library Society, May 14, 1981.

** Department of Pathology, Medical University of South Carolina, 171 Ashley Avenue, Charleston, S. C. 29425.

The Medical History Club, now named for Robert Wilson, was established in the nineteen-twenties, the precise time shrouded in the mists, as the original secretary refused to relinquish the minutes. Dr. Waring was elected secretary at the meeting of October 5, 1933, and remained in that capacity until his death. His recordings of these meetings have been meticulously kept, are bound and in safekeeping in the Waring Library. They furnish a fascinating commentary on many of the prominent Charleston physicians of this era. These minutes are not only a literary chronicle, but perhaps most of all a reflection of Dr. Waring's dry wit and prowess for editorially succinct recapitulation. He comments: "Several members avoided display of their ignorance of the subject of the paper by pretending to withhold sage remarks until the last installment of the paper." The meetings of the club are held at members' houses and a gathering at Dr. and Mrs. Waring's home was a treat to be anticipated. Opinions as to the menu at these meetings have remained controversial. In the thirties as the minutes show:

"But when the lads are gathered round,
And are really at their ease,
They'll take a dram or two of scotch,
And nibble on crackers and cheese."

Thirty years ago, the matter of menus was discussed at a meeting of the club and the general opinion, according to the minutes, was that refreshments should be reduced to very simple cold foods and that the continued tendency to elaborate suppers should be avoided. No matter; perennial discussions notwithstanding, suppers have remained elaborate.

The Waring wit, dry as Charleston woodlands in the fall, was a delight. Subliminal at times, it enlivened reportage of the driest subjects. A turn of phrase, a play on words, often muted, as twinkling and evanescent as the fireflies of summer. Dr. Waring shunned hyperbole. I never heard him tell a story or use a phrase that was of doubtful propriety.

The companionship of Joe and Ferdie Waring was steadfast and unseparable. Ferdie Legare was first married to William Bryant Backer of New York; upon his death, she determined that Charleston would be a better place to bring up her three children than Manhattan.

The young widow then returned to her birthplace ready "to take the veil" as she says. She consulted a physician, Dr. Joseph Ioor Waring, about allergies and a romance began that was mightily promoted by her three children. The children were devoted to Dr. Joe and on one occasion Billy Backer asked him why he did not ask his mother to become his wife. Dr. Joe immediately did so and Ferdie replied she would think the matter over, whereupon her son told Dr. Joe, "I can tell by the twinkle in her eye that the answer is going to be yes." Dr. Waring remarked, "We didn't announce our engagement, we admitted it." Mrs. Waring expressed her feelings about their engagement this way: "I not only became engaged to a delightful and wonderful man, but to a pediatrician as well."

The occasion of Dr. Waring's and Mrs. Backer's wedding coincided with the time when Western Union was a greater communications giant than today and a messenger boy was available for the asking. A friend wired, "If you want a boy, call Western Union," and Dr. Waring instantaneously wired back, "We have a boy by another union."

There was mutual devotion between him and the children. Dr. Joe counseled them, and supported their dreams and promoted their aspirations. When punishment was meted out there was no recrimination or resentment on their part.

Dr. Waring had a strong sense of justice and this characteristic, blended with a judicious, non-volatile temperament, rendered him incapable of harsh or intemperate retribution.

The war years were strenuous for Dr. Waring. There was only one other pediatrician in Charleston and a demanding practice necessitated a commitment of at least twelve hours every day of the week. His literary productivity was curtailed, although surprisingly he was able to publish a History of the South Carolina Medical Association in 1948. He continued his pediatric practice for twelve more years, but it became apparent unless he was able to devote his full time to his historical research and writing that he would never be able to complete his beloved three-volume *History of Medicine in South Carolina.* He retired in 1961, after 37 years, to begin his second career as a medical historian.

His view of retirement is best expressed in a letter he wrote to State Senator James H. Ham-

mond: "I agree with you entirely that I shall never really retire. I can't think of an existence which does not require some activity as long as the mental facilities can stand the wear and tear." And so as "an humble amateur in the field of medical history" to use his own description, designated "laureate of medical history" by another, Dr. Waring worked in his study at Old Town Plantation during the afternoons and frequently in the evenings.

He possessed a remarkable degree of self-discipline, a characteristic which was in large part responsible for his many accomplishments. When told by his physicians to lose 17 pounds he lost 20 and did not regain, thereas, a true test of determination, to which many of us can attest.

Dr. Waring's opinions once formed held fast.

His kindly, soft-spoken, unassuming demeanor belied a steely determination. Once determined upon a course of action, his guns were never spiked. He could be obstinate, but never rancorous. While serving as senior warden of the reactivated St. James Episcopal Church at Goose Creek, delicate negotiations with ecclesiastical authority had to be undertaken. Dr. Waring brought these deliberations to a peaceful and harmonious conclusion, gaining stature with his integrity and judicious arguments. While serving as Chairman of the Sesquicentennial Celebration of the Medical College, he inspired and prodded his committee members to performance beyond their expectations.

Dr. Waring believed that tonsillectomy was a much abused operative procedure. He partially subdued his frustration by composing a litany of comic verse entitled "Evolution of the T&A Industry." I quote the final lines:

> "And some are large and some are small,
> and some can scarce be seen at all.
> And some have pockets and some have pus,
> but to the surgeon they're all a must.
>
> And some get strep and some get virus,
> and some might even affect the iris.
> So pour out your syrups and throw out your pills,
> for boys there's gold in them thar ills."

Dr. Waring warned about pesticides in 1946, editorialized and made speeches concerning their danger. This latter action was a reflection of the depth of his feeling for although he loved writing, he abhorred public speaking. During his later years, he asked me on more than one occasion to serve as surrogate speaker, usually at events with historical overtones. He had usually written a paper on the subject so it was no difficult task to adapt his factual material to my delivery.

Dr. Waring loved dogs and they reciprocated. Their breed and blend made little difference. Lineage stretched from King Charles spaniels to mutts. Surely one of the most endearing stories concerns Sam-she. After attending Sam Stoney's funeral at Goose Creek Church, Mrs. Waring spied a canine waif dodging the jostling automobiles and scooped him up in her arms. Putting his paws on her shoulders, the dog licked her face. The sexton called his son who unceremoniously booted the dog into their nearby yard. But that dog obviously had canine charisma and was to replicate the story of the Prince and the Pauper. The following day Mrs. Waring had a conference with her daughter, Nancy. They went to Goose Creek and bought the dog for Dr. Joe. It had been decided that the addition to the family should be named Sam in view of the circumstances of his acquisition. Nancy called attention to the fact that Sam was a girl. Dr. Waring was equal to the challenge and Sam-she was thus christened.

A dog invariably accompanied him while taking a stroll, making a call or going for a visit to Wadmalaw Island. Dr. Waring was dilatory about naming his last dog. While attending a Kostelanetz concert, at the conclusion of selections from Porgy and Bess which included "Bess, you is my woman now," Dr. Waring whispered to his wife, "I have just chosen a name for my dog," and it was Bess who frolicked at his side when he briskly walked the property of Charlestowne Landing.

He told the story of making a house call and while leaning over the baby's crib with a stethoscope, he became aware of Woofie standing on his hind legs on the other side of the crib, head cocked inquisitively to one side as if awaiting Dr. Joe's verdict.

Dr. Waring was gregarious, at least in selected and harmonious company. He loved to gather with his friends for coffee and gossip on Wadmalaw Island, a group composed of an amalgam of those natives referred to as "been-heres" with

those of more recent introduction aptly designated as "come-heres." He and Mrs. Waring thoroughly enjoyed their vists to London with the Burtons, Milby having scholarly interests on a par with Dr. Waring.

Fishing was a major diversion. It was my good fortune to be a friend of several of his coterie of fishing companions, especially Dr. Billy Smith. I, thus, was invited on a considerable number of these outings, an opportunity rare in view of the disparity in ages and more particularly since many of the group were my former professors. A favorite haunt was the summer home of Dr. Harry Mustard on Edisto Beach. I used to listen in wide-eyed wonder to their badinage and anecdotes; many of them were gifted raconteurs, and notable in this regard, as I recall, was Dr. Olin Chamberlain.

Intimations of the disciplined scholarship that would characterize his literary endeavors were apparent while still a student. After attending Porter Military Academy, then the Episcopal High School in Virginia, he graduated with high honors from the College of Charleston and the Medical College of the State of South Carolina. After a residency at Roper Hospital, he continued his postgraduate training at Willard Parker and Bellevue Hospitals in New York. He was then persuaded to accept the directorship of a child health demonstration project at Murfreesboro, Tennessee, where he worked with Dr. Harry Mustard. He held this position for three years and then returned to Charleston in 1927.

Dr. Waring published more than one hundred articles of a medical and historical nature, the latter predominating on a roughly sixty to forty ratio. He was a frequent contributor to *The Journal of the History of Medicine and Allied Sciences* and a steadfast supporter of the American Association of the History of Medicine whose annual meeting he sponsored in Charleston in 1960 and 1974.

Dr. Waring's activities were not confined to medical writing and the practice of medicine. He had a strong civic and professional sense of duty and served in many capacities. He held two major editorships, serving as editor of *The Journal of the South Carolina Medical Association* for over seventeen years. He was president of the South Carolina Historical Society and the editor of its *Journal* for four years. In this latter capacity, his meticulous editing and selection of material of high quality enhanced the prestige of this publication.

He was President of the Medical Society of South Carolina, the controlling body of Roper Hospital on whose Board of Commissioners he served for many years. As the Medical Society's librarian, he was responsible more than any other individual for the preservation of the valuable medical historical library of the Medical Society. This rare book collection had a circuitous itinerary before it finally gained repose on the second floor of the Waring Library. Dr. Waring functioned as tour director, as it were, of this collection and prevented its dispersal and liquidation by theft and attrition. Dr. Waring further enhanced the library's collection of rare items by personally purchasing books and giving them to the library. He left his entire historical book collection, numbering more than five hundred books and pamphlets, to the library. Many of these volumes, such as "An Account of the Weather and Diseases in South Carolina" by Lionel Chalmers, published in London in 1776, has a current list price of $1000.00, and Peyre Porcher's first edition treatise on botany is nearly as valuable. He also bequeathed his personal collection of medical caricatures to the library.

Dr. Waring was chairman of the Charleston County Board of Health from 1968 until he died. Dr. Chambers, Health Officer of Charleston County, commented at the time of his death: "He led the deliberations (of the board) with dedication and integrity." Dr. Chambers selected this quotation from Emerson as an exemplification of Dr. Waring's life. "To help the young soul, to add energy, inspire hope; and blow the coals into a useful flame to redeem defeat by new thought and firm actions, this, though not easy is the work of divine man."

Dr. Waring was a Diplomate of the American Board of Pediatrics and Clinical Professor of Pediatrics at the Medical University. He was Director of Pediatrics at Roper Hospital until his retirement. He was secretary and president of the Society for the Relief of the Families of Members of Deceased and Disabled Indigent Members of the Medical Profession of the State of South Carolina, an organization whose good deeds are surpassed only by the verbosity of its name.

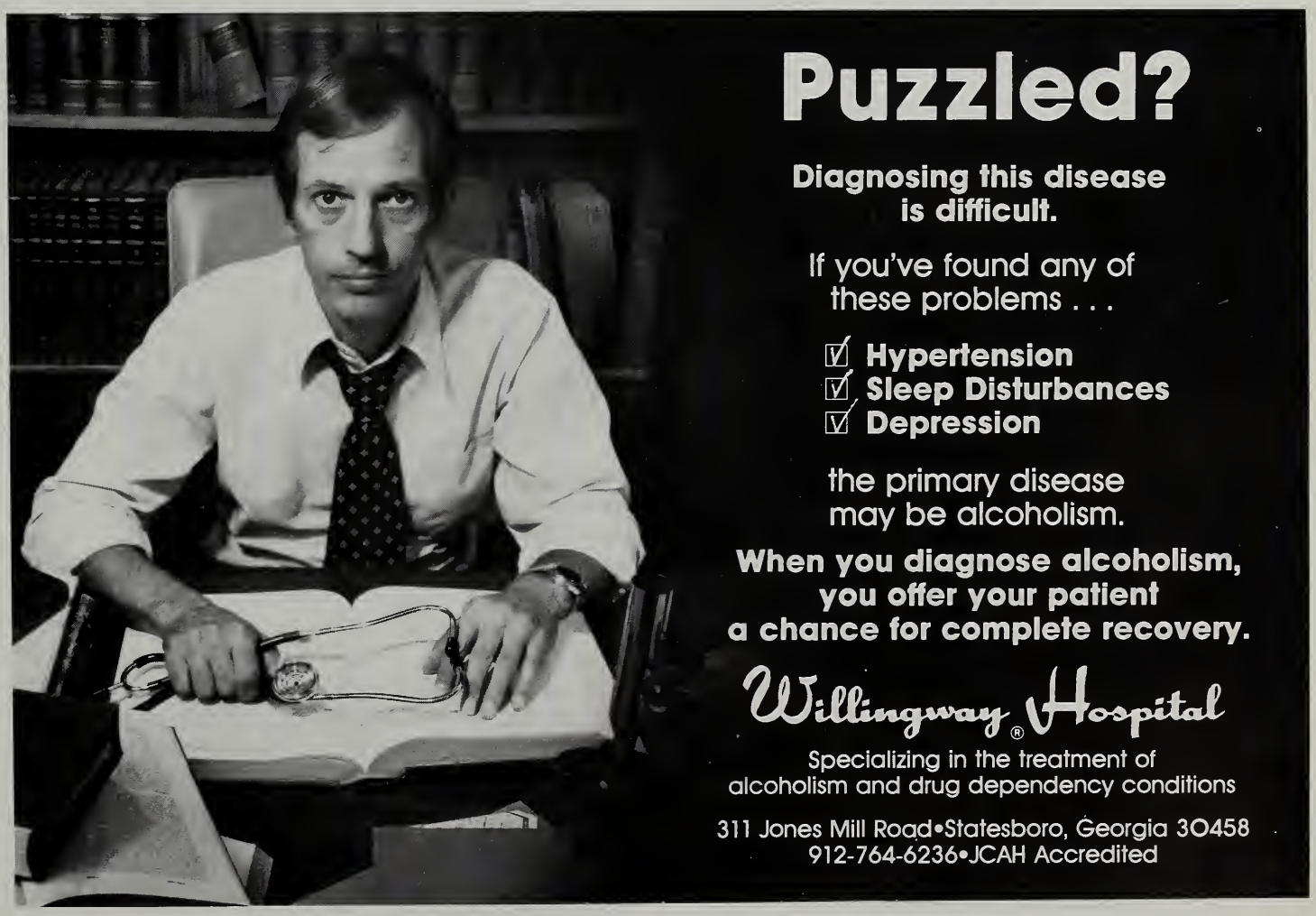
His dedicated and altruistic service was recog-

nized by many branches of the health professions. He was given the outstanding service award of the South Carolina Medical Association in May, 1974. The South Carolina Hospital Association and the Easter Seal Society for Crippled Children each awarded him a plaque for his significant service to the two organizations. The College of Charleston bestowed an honorary degree of Doctor of Letters in 1968 and he was one of the physicians honored at the dedication of the Physicians Memorial Auditorium at the same institution in 1974. He received the William Gilmore Simms Award for distinguished literary achievement from the College of Charleston in 1976. He was designated a Distinguished Alumnus of the Medical University of South Carolina in 1969. At the same time, its Board of Trustees renamed the library on the old Porter property the Waring Historical Library in recognition of Dr. Waring's devotion and dedication to medical history. This memorialization of his life and work must have been the most satisfying of the many honors accorded him.

His monumental work is the three-volume *History of Medicine in South Carolina*. Painstakingly written and thoroughly documented, it is the only comprehensive history of the most ancient of the healing arts as it was practiced and developed in this state since 1670. That these volumes were a labor of love is indicated by the dedications. Each volume is inscribed to: Fernandina Legare Waring.

On December 21, 1977, Dr. Waring attended an organizational meeting of the Waring Library Society. He returned home happy and full of enthusiasm, delighted that the objectives for which he had labored so long had now come to fruition. In this state of contentment, he quietly died in his sleep that night.

This humane and urbane man enriched the lives of those privileged to know him. He bestowed a legacy of scholarship, erudition and historical literary distinction that will endure. □



PELLAGRA IN SOUTH CAROLINA

S. HOPE SANDIFER, M.D.*

Pellagra was not recognized in the United States until the twentieth century, although a few case reports had appeared as early as 1863. H. F. Harris of Atlanta, Georgia, reported a case in 1902, but nothing further was heard about the disease until 1907 when reports began to come in from state asylums and many communities in the South. The pioneer investigator of pellagra in South Carolina was James Woods Babcock, M.D., Superintendent of the State Lunatic Asylum in Columbia, South Carolina in 1891.[1] His findings concerning pellagra were reported to the Board of Regents and Medical Staff of his hospital in December 1907, and published in the *Journal of Insanity* in April 1908. The first local conference on pellagra was held at the State Hospital in October 1908. National conferences were held there beginning 1909 when 394 participants registered from nearly every state. When this conference was planned, Babcock thought that it would only be of interest to the physicians of South Carolina, but word spread and hotel accommodations in Columbia were overtaxed. The press coverage was extensive, with out-of-state coverage as well as whole page spreads in *The State*.[3] This conference strongly implicated spoiled corn as the cause of pellagra. This prompted many studies on corn by the United States Department of Agriculture. There were rumors that corn unfit for grits was made into whiskey and beer, and it was well known that some alcoholics developed pellagra. Dietary deficiency in alcoholics was apparently not recognized at this time.

Dr. Babcock founded the Association for the Study of Pellagra and was the first president from 1910 to 1912. With C. H. Lavinder he prepared the authorized translation of the French publication, "The Treatise on Pellagra," by Dr. A. Marie.

In 1912, C. H. Lavinder of the U. S. Public Health Services estimated that more than 25,000 cases of pellagra had occurred in the United States in the previous five years with a case fatality ratio of 40 percent.

The Thompson-McFaden Pellagra Commission, in its first progress report of its studies in Spartanburg, South Carolina, concluded in 1913 that pellagra was not due to ingestion of food or spoiled maize but was a specific communicable disease transmitted from person to person by means which were, at that time, unknown.

In his annual report for 1913, Babcock reported that there had been a total of about 900 pellagrins in his institution during the past six years. Although the cause was unknown, it was agreed by all that the disease was essentially rural and associated with poverty.

Treatments popular at that time included salvarsan. One popular treatment in South Carolina was hydrogen dioxide taken internally, followed by iron, quinine and strychnine. Pellagra was a factor in criminal behavior, and in one case two Chester men were acquitted of homicide when the tendency to murder was concluded to be irresistible in pellagrins. My father made a passing remark in a committee meeting and was challenged to a duel by a man who was subsequently found to have the dementia of pellagra.

As a result of efforts by local citizens and politicians, a temporary hospital and laboratory was established in Spartanburg, South Carolina, in June 1914 at a cost of $47,000 for the first year. It occupied a building in the Spartan Mills Village which had been used the year before for charity pellagra patients.

In March 1914, Joseph Goldberger began his studies in South Carolina. He was a graduate of Bellevue Hospital Medical College and had joined the United States Public Health Services in 1899. He had made important contributions to infectious disease epidemiology, particularly in typhus fever and measles. In June 1914, Goldberger wrote his first report,[2] mainly a review of the work of others, emphasizing that he believed pellagra was due to a dietary deficiency. He emphasized that no nurses, attendants or

* Division of Preventive Medicine, Department of Family Practice, Medical University of South Carolina, 171 Ashley Avenue, Charleston, S. C. 29425.

employees at the asylums had contacted the disease, even though the cause of the disease was within the hospital, and pellagra seemed to develop in those who had been at the institution for a number of years. This report was based upon field visits to hospitals throughout the South and the evidence that animal studies in Savannah, Georgia had not supported the contagious theory. Goldberger also discovered pellagra at orphanages where he proposed supplementing the diet with meat, milk, and fried beans. The government paid the bill of $700 per month at two orphanages for supplemental food. Included in this study was Epworth Orphanage in Columbia with 245 children, of whom 150 had pellagra. After the dietary change, pellagra disappeared among the orphans. One of the study orphanages returned to the old diet and pellagra recurred; with dietary supplements it disappeared. Similar diet studies were conducted at Georgia State Sanitarium.

In 1915, studies were carried out at the Mississippi State Penitentiary where prisoners were fed inadequate diets and pellagra was induced in six of 11 volunteers.

Meanwhile, at the Spartanburg Hospital, work had been expanded to include an outpatient clinic. Pellagra patients came in for *one meal per day* and no drugs were used. Symptoms and signs usually disappeared in six to ten weeks of dietary management alone. This clinic and the hospital remained in operation until 1920.

Goldberger's work was not accepted by all physicians. At a meeting of the Southern Medical Association in Richmond, Virginia, in 1914, Dr. James A. Hayne, then South Carolina Health Officer, called Goldberger's theories an "absurdity " Goldberger continued to say to the press, "To cure pellagra, eat beans," and "To prevent pellagra, eat more beans," a theory that did not stand the test of time.

In 1916, Goldberger carried out studies, largely in Spartanburg and Columbia, on 16 volunteers, including himself, his wife, and most of his staff. These studies included the injection and/or ingestion of blood, urine, feces, nasopharyngeal secretion and scales from cases of pellagra. The experiments furnished no support for the theory that pellagra was contagious and strengthened his views that the disease was due to a deficient diet.[4]

In April 1916, to coordinate with the seasonal variation in pellagra, (now established by epidemiologic studies), community studies were begun in the mill villages of South Carolina. Four were in Spartanburg County, two in Oconee County, and one in Chester County. Each village consisted of 500 to 800 white inhabitants. Ascertainment of cases of pellagra was done by house-to-house visits. The criteria for inclusion of cases was the presence of a bilaterally symmetrical dermatitis. Fifteen day food consumption was assessed by having the company store keep a record of all food purchased during each 15 day period for 60 days. Food consumed was calculated on a household rather than an individual basis, and comparisons showed that those without pellagra had a more liberal supply of "animal protein" including lean meat and dairy products. There was no consistent relationship to the consumption of corn, wheat or beans. The total calorie intake was not greatly different. Goldberger concluded that there was a deficiency in either (1) amino-acid, (2) mineral supply, or (3) some vitamin as yet unrecognized. The incidence rate of pellagra in this study was 42.7 per 1000 population.

Joseph Goldberger continued his studies in the seven cotton mill villages until 1921 on a "varying scale, but without interruption,"[4] and by February 1917, the number of villages under study had increased to 24. He found many pellagrins who did not seek medical attention and the case-fatality ratio was changed to about 3%. These expanded studies showed that children from two to 15 years of age were the predominant victims of the disease. Again the peak period of onset was April to July. The disease continued to present as an economically induced dietary deficiency.

In 1914, Voegtlin had suggested that among the possible causes for pellagra was a deficiency of certain amino-acids. In 1918, McCollum had expressed the feeling that pellagra was associated with deficiencies of dietary factors, specifically vitamin A, mineral elements, and protein mixture. Wood, in 1920, had suggested deficiency of a B vitamin was responsible for pellagra. On the basis of his own studies, Goldberger eliminated minerals and the known vitamins, namely A, B (antineuritic), and C as possible causes for pellagra, but showed favorable response to cystine and tryptophane in three cases. (Tryptophane, of course, was the answer, since humans can con-

vert tryptophane to niacin.) However, even in 1925, amino acids were costly and in short supply, so Goldberger tried several foods to see if they contained what he now called a B vitamin, the P-P (Pellagra Preventive) factor. He found no protection from beans, but good protection from casein and brewers yeast as well as lean meat.

Joseph Goldberger died from cancer in 1929 at the age of 55. He did not live to see the identification of niacin as his PP factor. With the advent of World War II, economic conditions improved and, despite rationing, food became more plentiful, especially for the lower socio-economic class. Pellagra was finally conquered during World War II, due to the economic changes permitting a more nutritious diet which included enriched bread, flour, and grits with niacin. The enrichment of these began with all basic foods purchased by the military forces and spread to the general population.

Pellagra still occurs sporadically. Senator Hollings[5] found one case of pellagra in Beaufort County in 1968, and in 1971, the state health officer in Maryland found pellagra in the state mental hospitals. However, it is unlikely that the average medical student today will see a case.

Thus the pellagra story in South Carolina documents a man-made disease resulting from economic changes, the rise of the mill-towns, the loss of agrarian ways of life, and the improved socioeconomic changes accompanying World War II. Joseph Goldberger was the best known of a number of astute physicians who struggled with the pathogenesis, treatment, and eventual prevention of a socially-determined disease. □

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R

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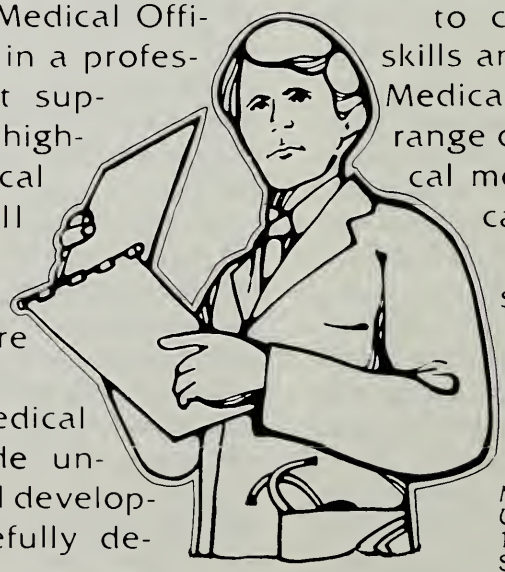

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AIR FORCE

DO YOU KNOW A DISABLED PHYSICIAN?

SCMA CAN HELP

TURN PAGE TO LEARN HOW

DO YOU KNOW A DISABLED PHYSICIAN?

THE SOUTH CAROLINA MEDICAL ASSOCIATION CAN HELP

The SCMA's Committee on Alcohol, Drug Abuse and Impaired Physicians is the disabled doctor's advocate. The Committee views abuse and addiction to alcohol and other drugs as an illness and deals with it non-judgementally, non-punitively and therapeutically.

The program functions as a peer to peer activity, whereby an impaired physician will undergo evaluation and receive a treatment program tailored to his or her specific needs in work, family, finances and community. Voluntary participation results in committee advocacy and a protective role with the local hospital, medical society, State Board of Medical Examiners and Drug Enforcement Agency. Voluntary participants following through with treatment are not reported to either the State Board or any other group or agency.

WHAT IS AN IMPAIRMENT?

The impaired physician has been defined as one who for any reason is unable to perform professionally at an optimal capacity. That is to say any disability (impairment) that causes a physician to be unable to do anything other than his very best. It is felt by this committee that this definition covers everything from Alzheimer's disease to Alcoholism. This committee has been asked by the State Medical Association to address all forms of impairment or disability in regards to the physicians in the State.

WHAT CAN YOU DO?

Disabled doctors are usually unable to ask for aid themselves. You can help them by:

Writing: Skottowe B. Fishburne, M.D., Chairman
Committee on Alcohol, Drug Abuse and Impaired Physicians
South Carolina Medical Association
P. O. Box 11188
Columbia, South Carolina 29211

Calling: SCMA Headquarters, (803) 252-6311 or after hours leave your message at (803) 765-9347

WHAT THE COMMITTEE WILL DO

Your report will be investigated by a committee member and if verified, a pair of committee members will contact the impaired physician. Should they fail to recruit the physician, a second and third team will follow. The physician signs a contract with SCMA limiting, as mutually agreeable, his or her practice and enters treatment. A second contract is executed following treatment for follow-up and assistance in maintaining recovery. At this time a colleague is also appointed to work with the impaired physician for a period of up to two years.

CARING AND ANONYMITY ARE KEYS

Did you know that eleven physicians have voluntarily entered this program within the last six months?

DISASTER RELIEF AFTER THE CHARLESTON EARTHQUAKE OF 1886

RICHARD H. FITZGERALD, JR., M.D.*

The city of Charleston had withstood epidemics, fires, hurricanes, sieges and bombardment by the Swamp Angel from Morris Island, but was never as alone as the morning of September 1, 1886. The dawn light made obvious what all had feared. The tremors first felt at 9:51 the previous evening produced a disaster surpassing all earlier events. Most buildings were of brick construction on a mud base which offered no seismic resistance. Eighty to ninety percent of the city's buildings were destroyed.[1] Twelve months previously a hurricane had destroyed many of the city's roofs and much of the vegetation, but there had been sufficient shelter remaining and no outside assistance was accepted.[2] With the earthquake, no shelter was thought safe. There was no store of disaster supplies or military detachment nearby to lend assistance. All communication was severed. The mayor was on vacation and did not return to Charleston for another six days. He was first informed of the earthquake when the steamer Etruria brought him to New York at conclusion of his cruise.

In the United States, there were 51 earthquakes reported in 1885.[3] Minor tremors were first recorded in the Charleston area in 1687.[4] The magnitude of the Charleston earthquake of 1886 is difficult to grasp. Fifth among United States' earthquakes in total numbers of casualties,[4] it was felt in Boston and the Mississippi valley. The Richter scale was not developed until the 1920's with the advent of scientific seismic recording apparatus. Using the McKalley isoseismal system of observations of alterations in terrain and buildings, it was concluded that there were two isocenters — Summerville and Rantowles. On a McKalley scale of twelve, the Charleston earthquake is rated nine.[5] The main damage occurred at the isocenters with less effect east of the Cooper River.[1] Rail and telegraph communication was instantly severed. The telegraph was restored within 24 hours, but the rail lines remained interrupted for three days.

During the 12 month period ending December 31, 1886, there were 72 fires recorded by the Charleston Fire Department. Eighteen (25%) occurred at 10:00 p.m., August 31.[7] The streets wre blocked with rubble. Twenty-seven people died in the tremors and 56 other deaths were attributed to the earthquake.[8] The problems were to provide food, water, shelter and relief for the city.

There were three or four steamers in port. These ships and buoy tenders provided some people shelter.[9] There were less than one-half dozen tents in the city.[9] The army had been withdrawn in 1872 at the end of reconstruction. There were no field ovens, no food stores and no tents. Coastal defense batteries had been abandoned and only the larger forts were manned by caretakers. No one lived at Fort Sumter. Two men with their families lived at Fort Moultrie — Ordinance Sgt. Gillerson and retired Sgt. Condon.[10] They were unable to lend any assistance to the city. The forts were at that time under the Army Corps of Engineers which was headed by Bvt. Major General Quincy Adams Gilmore. He was familiar with Charleston, having achieved his commission during the siege of Fort Sumter. He served in both the attack on Fort Sumter from Morris Island and in the occupation of Charleston.[11] Communication between General Gilmore and First Lt. F. V. Abbott reported minimal damage to military installations in Charleston. One chimney was lost in both forts, and some of the old cracks in Fort Sumter may have worsened.[10]

The earthquake occurred in the late summer when there was food available in the general vicinity.[12] Water collection systems were damaged, but there was ample water. With the arrival of Mayor Courtenay, an Executive Relief Committee was established on September 10 to

* Department of Radiation Therapy, Medical University of South Carolina, 171 Ashley Avenue, Charleston, S. C. 29425

administer trust funds to the needy and distribute food, water and tents as they arrived. The majority of tents which were received came from national guard units of other states. Summer drills had been completed and tents were in storage. Governor Foraker of Ohio ordered 500 tents sent to Charleston. The federal government sent 100.[13] Tent communities were established in all areas of the city that were free of rubble. By wagon, food and water were distributed until October 1 when dispersal was officially ended by the Relief Committee.

Fortunately, there was no tidal wave[3] and no change in the depth of the harbor.[14] The wooden buildings comprising the riverfront warehouses generally escaped destruction, allowing for quick return of the city's commerce.[15]

The earthquake's effect was recognized throughout the world. Queen Victoria sent a letter of condolence to President Cleveland. Citizens throughout the country sent money. Nine hundred thousand dollars was received for relief. Large sums were given by northern cities. Boston gave $77,000; New York City gave $51,000; Philadelphia gave $56,000. Reverend Porter, founder of Porter Military School, wrote in his autobiography that "the North forgot there had been a war which had separated us and gave us freely as if we were on the other side of Mason and Dixon's line. Our people should never forget this, and when hungary [sic] politicians seek to stir up strife, they should answer 'remember the earthquake!' "[16] These philanthropic monies helped in the early repairs of schools and homes. The mayor extended his appreciation in a letter:

City of Charleston
Executive Department
December 31, 1886

Contributors of the Relief of the Earthquake Sufferers:

At the close of this year memorable by our sudden and terrible affliction from the mysterious visitation of earthquake, the corporation of the city of Charleston in greatful memory of the blessed bounty that quickly came from all parts of this land and even from beyond the seas for the needy sufferers in this stricken city sends to each and all these generous givers this City's heart felt gratitude and glad greetings in the new hopes of the new year.

The families in more than 2000 homes restored, the multitude of the poor fed and sheltered, the orphan, the sick, the aged, and the needy in their rebuilt hospital and places of refuge will always cherish this gracious and universal giving and in the heart of this City the memory of it shall be precious as a charity, the fruit of which is on earth and its growth in heaven.

To all our brothers far and near who have been touched by our woe our heart felt wish is that as unto us in this human springtime of peace and good will, so unto them may come in God's good providence "The charities that soothe and heal and bless".

Voted unanimously in City Council 28th December, 1886.

Wm. A. Courtenay □

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SCMA NEWSLETTER

December, 1981

COUNCIL MEETING - NOVEMBER 22, 1981

MEDICAID BUDGET CUTBACKS

For several weeks, SCMA leaders and staff have worked with the Department of Social Services in an effort to direct additional necessary Medicaid budget reductions where they will have the least impact on patient care. *Due to a projected over-expenditure of funds, DSS plans to cut some $22 million from the current Medicaid budget.*

The DSS Board, on the advice of DSS staff, has approved a series of budget cuts for the remainder of this fiscal year which total in excess of $22.8 million. *As proposed, there will be a 10 percent drop in the physicians' Medicaid reimbursement, or a total of $1.3 million. The SCMA feels that over all, the proposed budget cuts will have an unnecessarily harsh impact on the health and well-being of Medicaid recipients.*

SCMA President, *William H. Hunter, M.D.*, appeared before the Health Care Planning and Oversight Committee on Tuesday, November 24, to present SCMA concerns regarding the budget cuts and the disproportionate share physicians must bear as compared to other areas such as reimbursement to nursing homes. As a result of Dr. Hunter's testimony and the efforts of SCMA members throughout the state in contacting the members of the Committee, a decision on the proposals of the DSS Board has been postponed a week for further study.

At the time of this writing, the outcome is uncertain, but the members will be kept informed. Refer to the "President's Page" in this issue of *The Journal* for additional information on the SCMA's position.

AREA EMERGENCY CARE CLINICS TO BE MONITORED

Council, at its meeting on November 22, heard the concerns of the Commission on Public Affairs and Professional Relations under the direction of *U. Hoyt Bodie, M. D.*, about the emergency care clinics being opened throughout the state. Council has directed that the SCMA Committee on Medical Services monitor the development of such clinics to see that patient care develops in the proper direction.

CLEMSON SCHOOL OF NURSING SCREENING CLINIC

Council has expressed its opposition to a proposed Screening Clinic of the Clemson University School of Nursing. Plans for this clinic are being developed without physician input and the SCMA is concerned that the activities of the nurses involved could possibly amount to the practice of medicine. If plans for the clinic proceed as currently proposed, the SCMA will be alert for possible violations of the Nurse Practice Act.

PHYSICIAN MANPOWER IN SOUTH CAROLINA

Mr. Pete Bailey of the S. C. Bureau of Research and Statistics and *Ray Ramage, M. D., Chairman of the Medical Doctor Study of the South Carolina Commission on Higher Education*, presented their reports to Council on November 22. Mr. Bailey's study detailed statistics which project physician demand and supply in South Carolina through the year 1990. The bottom line indicates that in 1985, there will be 422 more physicians than are expected to be needed, and in 1990, there will be 1,030 more physicians than the projected need.

Following an extensive study of medical manpower in South Carolina by Dr. Ramage's Committee, the following recommendations were made to the S. C. Commission on Higher Education: *(a) that all residency spots in the state be frozen and any new residencies would have to be approved by the Commission on Higher Education before they could be established; (b) that the total number of medical students be limited to a total of 200 in both schools per year; and (c) that no state dollars be used for continuing medical education.*

Because of the possible impact of these two reports, Council has directed the formation of an Ad Hoc Committee to study them thoroughly and report back with recommendations for Council approval before any action is taken on the part of the SCMA.

SCMA LIAISON ACTIVITIES PROPOSAL APPROVED

As reported in the November issue of this *Newsletter*, the SCMA staff was directed by Council to prepare a method of coordinating and reporting liaison functions of the SCMA with state agencies and organizations, medical schools, third party payors, and non-profit organizations of a health-related nature. Council has approved the staff proposal which was designed essentially to enhance and improve SCMA's relationships with outside organizations. *The plan includes four categories of liaison, defines the roles of the leadership, the Commissioners and Committees, liaison physicians and the SCMA staff. It proposes some reorganization in the Commissions regarding committee assignments and reporting processes.*

SCMA staff will proceed in developing and implementing these liaison functions, within the parameters of previously established SCMA policy. Council urges your cooperation if you are called upon to assist as a Committee member of the SCMA or as a member of an Advisory Committee to any of the health-related organizations.

SCMA ANNUAL MEETING - ADVANCE NOTICE

Plans are being finalized for the 1982 Annual Meeting, to be held at the Sheraton Charleston, May 5 - 9, 1982. Under the direction of the Committee to Plan State Meetings, Chaired by *J. Gavin Appleby, M. D.*, the 1982 meeting will follow the same basic format as the 1981 meeting with minor modifications.

Planning for the scientific sessions is in its final stages, under the direction of *Hugh Wells, M. D., Vice Speaker, Fred Jones, M. D., Chairman of the CME Committee, and Roland Knight, M. D., Chairman of the Committee on Medical Aspects of Sports.* Major topics will be *Infectious Disease, Sports Medicine and New Aspects in Radiological Diagnoses.*

WATCH FOR MORE INFORMATION FROM SCMA HEADQUARTERS, AND MAKE PLANS NOW TO ATTEND - MAY 5-9, 1982.

MENTAL HEALTH COMMITTEE RECOMMENDATIONS APPROVED

Council has approved two recommendations of the SCMA Mental Health Committee, Chaired by *Thomas W. Messervy, M. D.*: *(1) that the SCMA endorse the committee's position that biofeedback is an effective treatment for stress related disorders after proper medical evaluation and in conjunction with an appropriate medical treatment program;* and *(2) that the 1980 law which allows superintendents of mental hospitals to be non-physicians should be repealed.*

SCAAP COMMITTEE ON CHILD ABUSE RECOMMENDATIONS

The S. C. Chapter of the American Academy of Pediatrics Committee on Child Abuse has requested SCMA endorsement of its position that "*all premature deliveries, all mothers who deliver at an age of 16 or younger, or any mother with a questionable history of maltreatment of children should automatically receive a social services consultation from the hospital's social services department.* The aim of the consultation is to educate the mother, provide proper parenting techniques, encourage prolonged physician-family contact, and to hopefully prevent the pattern of neglect or abuse which may tend to develop.

The SCMA has endorsed this position provided that such a consultation be set up at a physician's request rather than on an automatic basis.

PRIVATE REVIEW BY S. C. MEDICAL CARE FOUNDATION

Council has re-confirmed its support of the private review program of the South Carolina Medical Care Foundation, as expressed in the Resolution which was passed at the 1981 Annual Meeting of the SCMA. *The South Carolina Hospital Association has indicated a lack of acceptance of the Foundation's private review plans. The Foundation is attempting to work out this problem with the Hospital Association.*

CAPSULES

Congratulations to:

> *J. Gavin Appleby, M. D., chosen as one of the ten finalists for the National Academy of Family Practice "Physician of the Year". (See November issue of Good Housekeeping magazine.)*
>
> *William L. Perry, M. D., and John C. Muller, M. D., who were recently awarded honorary membership status.*

New members of the Board of the Members' Insurance Trust, recently elected by Council, are *Craig Evans, M. D., Spartanburg; and Edward C. Mattison, M. D., Anderson.* The MIT Board oversees the administration of the SCMA's health insurance program and has recently assumed the duties and responsibilities of the SCMA Insurance Committee.

J. Bruce Massey, M. D., who recently retired due to illness, has been approved by Council for disabled membership status.

DISABILITY DETERMINATION DIVISION
S. C. DEPARTMENT OF VOCATIONAL REHABILITATION

The Disability Determination Division of the South Carolina Department of Vocational Rehabilitation requests SCMA members' assistance in determination of benefits for social security and supplemental security income for *Angina Pectoris*. The outcome of many claims for this condition depends on the determination of whether or not it is present and how and when it is manifested.

Many complaints of chest pain masquerade as "angina", so it is extremely important to obtain a detailed history and description of the pain in order to differentiate among these diseases and determine whether the complaint of "chest pain" is or is not of cardiac origin. *Social Security regulations state that "chest pain of cardiac origin is considered to be pain which is precipitated by effort and promptly relieved by sub-lingual nitroglycerin, rapid-acting nitrates, or rest. The character of the pain is classically described as crushing, squeezing, burning or oppressive pain located in the chest. Excluded is sharp, sticking or rhythmic pain. Pain occurring on exercise should be described specifically as to usual inciting factors, character, location, radiation, duration, and response to nitroglycerin or rest".* In short, the Disability Determination Division advises that "...a good description is a good prescription against unnecessary phone calls".

AMA'S CPT-4 UPDATED

The sixth updated of AMA's CPT-4 (Current Procedural Terminology, Fourth Edition) has recently been published. The summer 1981 update extensively revises the section on neurological surgery, expands available CT scanning codes and makes other changes. This update is free from AMA's Order Department, P. O. Box 821, Monroe, Wisconsin 53566.

OPENINGS AVAILABLE FOR INTRAV TRIP

Reservations are still being accepted for the SCMA-sponsored INTRAV West Indies Air/Sea Cruise. Departure from Columbia is scheduled for February 6, 1982, with return on February 13. Costs per person begin at $895.00 plus airfare. A comprehensive program of Medical Seminars will be held on the cruise, under Category II of the AMA Physician's Recognition Award. *Write or call the SCMA office at 252-6311 for full brochure and reservation forms.*

S. C. CHAPTER: AMERICAN ASSOCIATION ON MENTAL DEFICIENCY FORMED

The SCMA has been notified of the formation of a South Carolina Chapter of the American Association on Mental Deficiency. This organization's purposes include: (1) providing a professional organization facilitating cooperation and service standards among those engaged in service, training and research in the area of mental retardation; (2) encouraging research and dissemination of new knowledge; (3) promoting the welfare of those who are mentally retarded, the individuals who work with them, and concern for the field in general; and (4) reviewing and influencing public policies as they concern clients and those who work on their behalf. *For information, contact: Mr. Chuck Luce, President, S. C. Chapter - AAMD, 2712 Middleburg Drive, Columbia, S. C. 29204.*

BROUSSAIS IN COLUMBIA, SOUTH CAROLINA — 1831*

HARDY WICKWAR**
CHARLES S. BRYAN, M.D.

Prior to the late nineteenth century, Americans usually turned to the great schools of Europe for new medical trends and doctrines. Thus, in the early eighteenth century, Americans looked especially toward the school at Leyden, in Holland, presided over by the great Hermann Boerhaave. There William Bull of South Carolina became the first native-born American to receive the degree of Doctor of Medicine. In the latter part of the eighteenth century, the school at Edinburgh, dominated by the legacy of the three Alexander Monros and by William Cullen, served as the Mecca for Americans. Charleston-born John Moultrie, Jr. became the first American to graduate at Edinburgh, and was followed by numerous others.

At the time of the American Revolution, medical thought reflected especially the speculations of the Scotch reformer, John Brown. Brown preached a sweeping "system" of medicine judged, in retrospect, to have been "an undertow in the tide of eighteenth century progress."[1] He taught that living tissues are "excitable" and that life is non-existent except as a result of external stimuli. Diseases are either "sthenic" (increased excitement) or "asthenic" (decreased excitement). Approaching the bedside of a sick patient, the physician had, in Brown's words, "only three things to settle in his mind. First, whether the disease be general or local; secondly, if general, whether it be sthenic or asthenic; thirdly, what is its degree." Considering most diseases to be "asthenic," Brown relied especially upon "stimulation" with opium and alcohol. In America, Benjamin Rush, who like Brown had studied under Cullen but rejected Cullen's attempt to classify diseases systematically, adopted a modified version of Brown's system. Rush considered most diseases to be "sthenic" and relied especially on systemic bloodletting by phlebotomy.[2] It has been asserted that Brown's theories caused more deaths than the French Revolution and the Napoleonic wars combined. In America, George Washington numbered among the casualties.

THE PARIS SCHOOL

The French Revolution affected medical practice and teaching in three ways. First, all endowed foundations were swept away. All voluntary hospitals thus became public hospitals, run by government agencies. The revolution had set out to abolish hospitals but, like many revolutions, eventually strengthened those institutions which were originally targeted for destruction. Hospitals became central to the practice and teaching of medicine; they became the places where "three new pillars of the new medicine — physical examination, autopsy, and statistics" — were to be developed.[3]

Secondly, the revolution swept away all professional organizations. No longer, for example, were there separate "colleges" for physicians and surgeons. For the first time, physicians and surgeons received the same basic medical education. Anatomy became the everyday tool for teachers of medicine.

The third way by which the French Revolution affected medicine consisted of a new spirit which took hold in medical education. The epoch of the American and French revolutions has been called an "age of reason." This meant, among other things, that it was a time when leading thinkers really believed in science as the essence of what Condorcet called "the march of the mind of man." Two aspects of this world view are of special importance to us here. One was the conviction of some protagonists of science that there

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* From Richland Memorial Hospital and the University of South Carolina. Presented at the inaugural meeting of the University of South Carolina Medical History Club, October 1, 1981.

** Address correspondence to Professor Wickwar and/or Dr. Bryan at Richland Memorial Hospital, 3301 Harden Street, Columbia, S. C. 29203.

were no longer any forbidden frontiers of knowledge or problems too sacred to be posed, so that the time had come to advance from the scientific study of the world around us to that of life and society. The other was the even more widely held conviction that intellectual mastery over nature must lead ultimately to practical applications. This became the dream of a whole school of practitioner-teachers in the public hospitals of Paris.

The new medical science of the Paris hospitals went through two phases. The first phase was characterized by constant and habitual use of clinical and anatomic observation to pursue the classification of diseases according to their symptoms and evolution. Even if clinicians did not know what to do, they might at least learn what to expect. By their cult of the post-mortem, "they made the dead speak." Out of anatomy, they produced a new physiology and a new pathology. Organ system after organ system was studied as the site of one disease after another. This phase was led especially by Philipe Pinel (1745-1826) and by Marie-François-Xavier Bichat (1771-1802).

The second phase of the new medical science included a search for common elements underlying all diseases and permeating all organ systems, for explaining all departures from normal functions, and for devising systematic therapeutic interventions.

FIGURE 1 — François-Joseph Victor Broussais (1772-1838), in the words of Fielding H. Garrison, "did away with the metaphysical conceptions of disease only to substitute something worse."

BROUSSAIS

François Joseph Victor Broussais (Figure 1) belonged to both of these phases: he became part of the first phase (1800-1815) and he *was* the second phase (1815-1830).

Son of a seaport physician in Brittany, Broussais had just graduated from a classical college when the wars of the French Revolution took him to sea. As an unlicensed ship's surgeon on privateers, he earned enough to take him during a brief interlude of peace to Paris. There he came to know Bichat and earned a doctorate at the new School of Medicine at age thirty. When war broke out again, he went with Napoleon's armies to Italy and other countries. A mass of clinical experiences in fever-stricken military hospitals led to his *History of Chronic Phlegmasias* (1808), which won for him the reputation of being a solid observer and a successor of Bichat. When Napoleon's wars and empire ended, Broussais received a tenured appointment to the army's teaching hospital in the former abbey of Val-de-Grace at Paris (1815), where he was rapidly promoted to medical and educational director and where he was safe from the reaction that set in after the Bourbons were restored.

Broussais reigned at Val-de-Grace for fifteen years. He became as symbolic of the hospital-based school of medical thinking at Paris as had been, in their more scholarly ways, Boerhaave at Leyden and Cullen at Edinburgh. As clinical instructor, he won the devotion of a generation of army surgeons who propagated his views and perpetuated his memory. At the same time, he created a tempest by his developing into a systematizer. He analyzed generalizations and hypotheses then current, synthesized those that seemed justified by empiric observation, and publicly rejected those that did not accord with his findings.

Broussais preached a new "physiological medicine" through lectures to extramural audiences on the Left Bank and through voluminous

and widely circulated books and periodicals. Especially combative and influential were two books which marked the beginning and the ending of the phase of Paris medicine which Broussais dominated. In the *Examination of Medical Doctrines and Systems of Nosology* (1816), he demolished as "ontologists" all of his many taxonomic predecessors who had not yet produced satisfactory evidence that diseases had a life of their own. In *Irritation and Insanity* (1828), he denounced "psychology" in the name of "physiology."

Leading as they did from Bichat's work on tissues and from Pinel's somatic approach to mental disorders, Broussais' scientific views passed long ago through the stormy stream of scientific thinking in which some hypotheses are pursued while others are transcended. He emphasized the "irritability" of tissues, with a contrast between normal stimulation and reaction and overstimulation and overreaction; he attributed irritation equally to external and internal stimuli; he viewed irritation as appearing first in specific organs — especially the digestive system — and then spreading through the body; and he thought of living organisms not only as physical or chemical structures, as had been fashionable in the previous century, but also as entities that live by constant reaction to external modifiers.

Broussais taught that nature had little or no healing power and that disease, therefore, must be met with active therapeutic measures. He preferred early topical treatments to prevent the spread of irritation from one organ to the entire organism. He stressed an "antiphlogistic" regimen which relied especially upon topical bloodletting and "debilitants" or "revulsives" such as weak broth, watered wine, lukewarm baths, meatless diets, and mild cathartics. He minimized the role of "stimulants" or "tonics" for "treating symptoms." If his therapeutic approaches to diverse ailments seemed stereotyped, it came from a conviction that there was inadequate evidence to support a "nosology" of diseases that recognized distinct entities for which there might be specific remedies.

BROUSSAIS' AMERICAN INTERPRETERS (1826-1835)

Within ten years, at least nine books by or about Broussais were printed in English in the United States. Of these, four emanated from Philadelphia, two from New York, and — surprisingly at first sight — three from South Carolina. Five of the American books were by Broussais, three were by French army surgeons who had trained under him, and one was by an American interpreter. We will be concerned here with two books which were printed in Columbia, South Carolina, in 1831. This event seems remarkable when one considers that only two books by or about Broussais were printed in all of England, and when one considers that Columbia was then a young capital city of but 5,000 population, with no hospital.

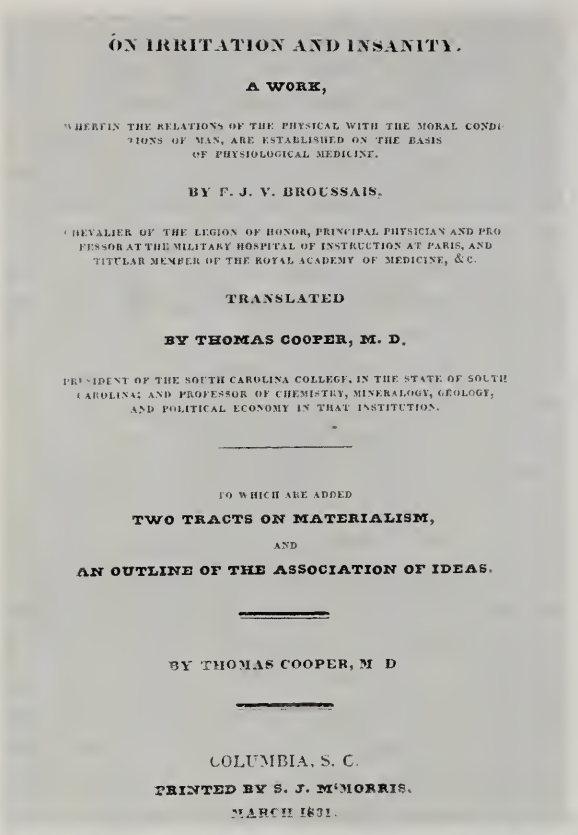
One of the Columbia books was a translation of Broussais' *Irritation and Insanity* by Thomas Cooper, the controversial president of South Carolina College (Figure 2).[4] The other was the *Exposition of the Principles of the New Medical Doctrine* (Figure 3), written by J. M. A. Goupil (1800-1837), a student of Broussais, and translated by a young Columbia physician, Josiah Clark Nott.[5] The third South Carolina book was a translation of *The Application of the Physiological Doctrine to Surgery,* by Louis Jacques Begin (1793-1859). This latter work, published in Charleston in 1835, was translated by a country physician, Dr. William Sims Reynolds, of whom little is known but whose annotations indicate close familiarity with Broussais' books and articles.[6]

The American interpreters of Broussais characteristically left the more theoretical writings to one side and concentrated instead on works considered to be applicable to American situations. What, then, did the two Columbia interpreters find in the writings of Broussais which might be relevant to conditions in South Carolina? They answered this question, at least in part, by adding to the translations opinions of their own.

THOMAS COOPER'S BROUSSAIS (1831)

Thomas Cooper (Figure 4) concluded his preface to *Irritation and Insanity* with the following statement:

> "In this volume, then, the reader will possess the most recent exposition of the physiological doctrines of medicine in the modern French school. . . . He will also possess in this work the most complete refutations of the metaphysical doctrines of psychology anywhere extant. . . .



ON IRRITATION AND INSANITY.

A WORK,

WHEREIN THE RELATIONS OF THE PHYSICAL WITH THE MORAL CONDITIONS OF MAN, ARE ESTABLISHED ON THE BASIS OF PHYSIOLOGICAL MEDICINE.

BY F. J. V. BROUSSAIS,

CHEVALIER OF THE LEGION OF HONOR, PRINCIPAL PHYSICIAN AND PROFESSOR AT THE MILITARY HOSPITAL OF INSTRUCTION AT PARIS, AND TITULAR MEMBER OF THE ROYAL ACADEMY OF MEDICINE, &c.

TRANSLATED

BY THOMAS COOPER, M. D.

PRESIDENT OF THE SOUTH CAROLINA COLLEGE, IN THE STATE OF SOUTH CAROLINA; AND PROFESSOR OF CHEMISTRY, MINERALOGY, GEOLOGY, AND POLITICAL ECONOMY IN THAT INSTITUTION.

TO WHICH ARE ADDED

TWO TRACTS ON MATERIALISM,

AND

AN OUTLINE OF THE ASSOCIATION OF IDEAS.

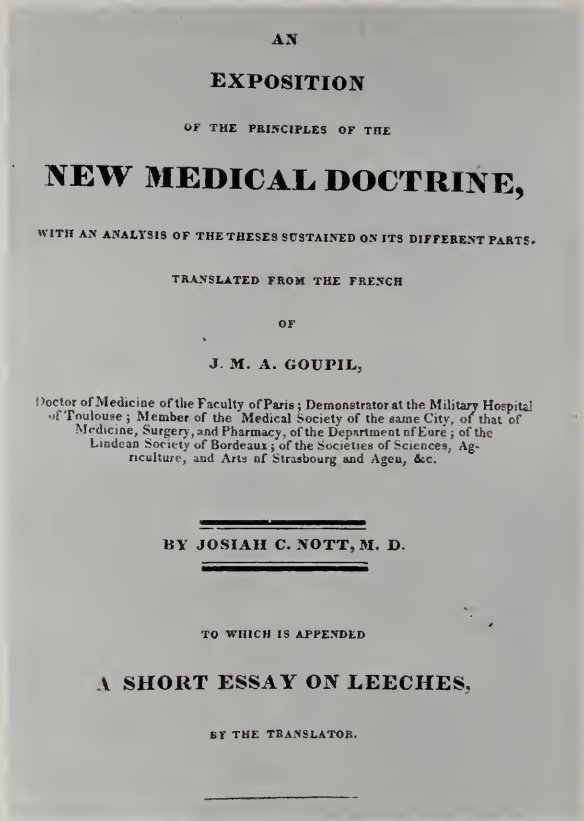
BY THOMAS COOPER, M D

COLUMBIA, S. C.

PRINTED BY S. J. M'MORRIS.

MARCH 1831.

FIGURE 2 — Thomas Cooper, named "M.D." although he had never attended medical school, followed the translation with a lengthy appendix on "materialism" and "the association of ideas."



AN

EXPOSITION

OF THE PRINCIPLES OF THE

NEW MEDICAL DOCTRINE,

WITH AN ANALYSIS OF THE THESES SUSTAINED ON ITS DIFFERENT PARTS.

TRANSLATED FROM THE FRENCH

OF

J. M. A. GOUPIL,

Doctor of Medicine of the Faculty of Paris; Demonstrator at the Military Hospital of Toulouse; Member of the Medical Society of the same City, of that of Medicine, Surgery, and Pharmacy, of the Department of Eure; of the Lindean Society of Bordeaux; of the Societies of Sciences, Agriculture, and Arts of Strasbourg and Agen, &c.

BY JOSIAH C. NOTT, M. D.

TO WHICH IS APPENDED

A SHORT ESSAY ON LEECHES,

BY THE TRANSLATOR.

FIGURE 3 — Josiah Nott translated what he considered to be the best synopsis of Broussais' "physiological doctrine" and added to it an essay on leeches drawn from his experiences practicing in Columbia.

> "The volume now offered to the public will be found to contain the *Elements of Physiological Metaphysics*, the only metaphysics in my opinion worth the attention of a man of common sense. Those who have studied Hartley, Priestley, Cabanis, Destutt de Tracy and Broussais will know how to estimate the vague and wordy discussions of the Scotch school."

What Thomas Cooper found was an argument that the way to understand the human mind was to study the brain and central nervous system as parts of the physical organism. Broussais denied that man had a mind apart from his brain. He claimed that his opinion stood within the main line of scientific thinking, from John Locke, M.D., *On Human Understanding*, to P. J. G. Cabanis, M.D., who had summed up the relationship between man's physical and social nature in the famous expression: "We conclude, with certainty, that the brain sort of digests impressions, and that organwise it secretes thought."

Broussais upheld this materialist tradition

FIGURE 4 — Thomas Cooper (1759-1839), president of South Carolina College, suggested the need for what is now the College of Medicine of the Medical University of South Carolina.

against what he regarded as an idealist "Kanto-Platonic" reaction. In Broussais' language, one should reject "psychological introspection" in favor of "physiological observation." Yet at the same time, he refused to adopt Gall's view that madness originates in the brain. Broussais did not exclude the impact of interpersonal experience and social environment on a person's behavior. However, he maintained that in between perception and behavior there lay a sensory, nervous, and cerebral system, the functioning and dysfunctioning of which constituted major challenges to scientific discovery. Insofar as insanity involved encephalitis, it was to be treated much like gastroenteritis or pleurisy or any other localized malfunctioning. Yet insofar as insanity was induced by external impressions, it called for "moral" as well as physical treatment.

Thomas Cooper had several reasons for welcoming this approach. Like Broussais, he had been brought up in the Anglo-French tradition which taught that the experience of our senses is the source of our ideas. However, he also knew that parallel with this tradition was a long tradition of medical observation which sought to explain more and more phenomena in physical, mechanical, or chemical terms. Of immediate interest to Cooper was a recent tendency to bring together these two traditions of mental and organic processes. Broussais — by refusing to classify both physical and mental diseases and by hypothesizing instead that all diseases were due to abnormal irritation by some external or internal agent — seemed to be carrying this trend a long stride forward. All diseases, including mental disorders, were therefore to be explained in organic terms.

These same viewpoints had led the young August Comte to hail the work of Broussais as the culmination of a new science of physiology and a milestone in the advance beyond metaphysical ways of thinking about life and society and towards reliance on the sciences of observation.

Thomas Cooper's preoccupation with the problem of insanity became a second reason for his interest in Broussais. As a utilitarian law reformer, Cooper had been concerned with the dilemma of deciding whether a person who had committed a criminal act was or was not capable of intending that act. Just before coming to Columbia, he had published his *Tracts on Medical Jurisprudence* (1819), which stood for the next twenty years as the only American publication dealing in detail with the law of insanity. Cooper gave currency to the view that an insane criminal act was committed under the irrestible impulse of a delusion or an erroneous association of ideas. As a member of the board of the new South Carolina Lunatic Asylum (1821-1827 and 1828-1829), Cooper again came up against the problem of insanity. Cooper's translation of Broussais' *Irritation and Insanity* thus contributed to a trend of somatic psychiatry which was becoming dominant in both scientific theory and in medical practice. The overwhelming conviction of physicians appointed to mental institutions such as the South Carolina Lunatic Asylum came to be that mental derangement — whatever the original cause — was organic. The best modes of treatment consisted of physical and environmental measures that could quiet the patient's excitation.

A third and compelling reason for Cooper's interest in Broussais was that both men were polemicists of science in an age when the scientific world view still felt a need to defend itself against clerical intolerance. Cooper seized the occasion of his translation to add 116 pages of his own to the 292 pages of his translation of Broussais. He indicated that he had long expressed similar "materialistic" views. To these, he added a letter of endorsement from his friend, Thomas Jefferson, which concluded with the opinion that "I will not believe that the liberality of the State to which you are rendering services of science which no other man in the Union is qualified to render it, will suffer you to be in danger from a set of conjurers."

JOSIAH NOTT'S BROUSSAIS (1831)

Josiah Nott (Figure 5) found in Broussais' writings an alternative to the medical theory and practice of the day. Reminiscing years later, Nott recalled the extent to which the antiphlogistic regimen — especially venesection as promoted by Benjamin Rush — had been practiced in Columbia:

> "Many physicians used the lancet freely, and continued to draw blood in the second and even third week [of fevers], so persistent was the tension of the pulse. Mercury and purgatives were used also. I have no doubt that the antiphlogistic treatment was pushed much too far. . ."[7]

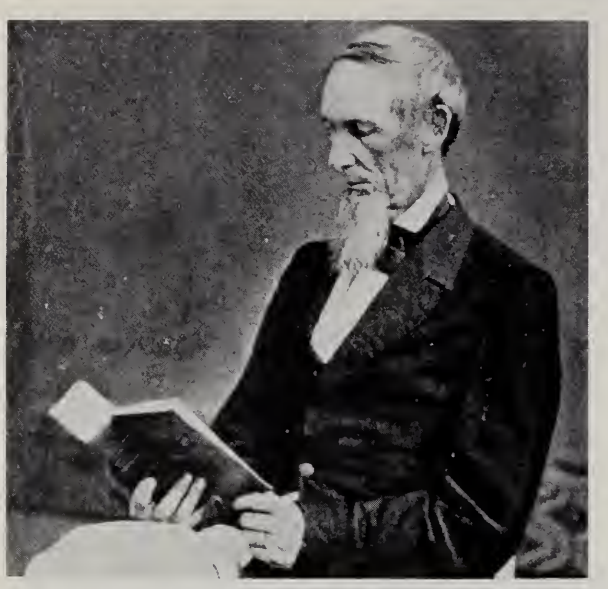


FIGURE 5 — Josiah Clark Nott (1804-1873), shown here in later life, is regarded as the prime founder of the University of Alabama School of Medicine.

Nott found an alternative to the medical theories of Brown and Rush and to the medical practice of frequent venesection. Although Broussais, like Rush, stressed an "antiphlogistic" therapeutic approach to most conditions, he emphasized topical bleeding with leeches rather than systemic bleeding with the lancet. Indeed, the influence of Broussais was such that France, which had in 1820 exported over one million leeches, soon became unable to satisfy its own demands and by 1827 was importing over 33 million leeches each year.

Although only 27 years old when he published his translation of Goupil's *Exposition of the Principles of the New Medical Doctrine*, Josiah Nott had already received a substantial medical education for his time. He had studied in the office of the Columbia physician, Dr. James Davis, and at the College of Physicians and Surgeons in New York, and received the M.D. degree from the University of Pennsylvania in 1827. He spent two years as an *interne* at the almshouse in Philadelphia, where he also served as demonstrator in anatomy and as assistant to Samuel Jackson and William Horner in their post-mortem examinations. On May 1, 1829, the *Columbia Telescope* carried the announcement that "Dr. Josiah C. Nott has opened an office in Mr. McIver's brick house . . . where he may be found at all hours."

Nott indicated in his preface to Goupil's *Exposition* that while "the name of Broussais is familiar to every one," few Americans, especially in the South, really understood the new "doctrines which are now so deeply agitating the Medical Profession throughout civilized Europe." Nott acknowledged that the new doctrine had its shortcomings:

> "Like all medical reformers, he [Broussais] is enthusiastic, and his heated imagination has led him into the error, so common to genius, of generalizing too far. But I am persuaded that he is nearer right than any one who has preceded him, and that no physician can read his works attentively without becoming a better pathologist and a better practitioner. . . . So fallacious is experience in our profession, that physicians may differ widely, and at the same time differ honestly. I have, however, never met with one who has studied the works of M. Broussais, and tested his practice, who has not modified his own to a greater or lesser extent . . ."

The contents of Goupil's treatise will be summarized briefly. The first half of the 356 page text expounds upon the nature and treatment of irritations, both of a localized and generalized nature. The second half of the book deals with gastroenteritis, which as we have seen was considered by Broussais to be central to most disease manifestations. Goupil concluded with a short chapter on asthenia. Here, he acknowledged that John Brown had "laid the foundation of correct physiology" by claiming that life is "only kept up by stimulants." However, by "establishing the unity or excitability and of excitement, the Edinburgh physician could no longer arrive at any truth." Thus, Goupil summarized how the Broussais doctrine differed from the Brunonian theory of the previous century.

To make the book especially useful to Southern physicians, Nott added to the translations his own appendix on the "manner of keeping and using leeches." He sought to correct the notion that the Spanish leech, *Hirudo medicinalis*, was the only species fit for medical use and that some of the other leeches were poisonous. Noting that *Hirudo medicinalis* had not been found in the United States, Nott claimed this to be no problem since in fact "any leech that will bite may be used without fear of danger." Fortunately, the streams and fresh water ponds of the Carolinas teemed with leeches. These local leeches were

substantially smaller than the Spanish ones, but the smaller size was actually advantageous: "They bite quite as well as the Spanish, *cause much less pain and irritation,* and the bites being smaller *are much less apt to be followed by troublesome hemorrhage,* which is a frequent consequence of the Spanish leech in delicate females and children." One compensated for the smaller size by increasing the number of leeches used, in a ratio of three to one.

Nott went on to explain the methods for catching, maintaining, and applying South Carolina leeches. The leeches were usually caught by boys who went into the water and muddied it, causing the animals to rise to the surface or fasten to their legs. Nott described an apparently original method for keeping leeches in charred tubs fashioned from casks and filled with several clods of marsh grass with the mud still attached. The leeches used the grass to wipe the slime from their bodies. Applying mud around the rims of these tubs prevented the leeches from crawling out. Nott also explained the method for stripping blood from a leech after its use. Within a week or ten days, the leech could bite again.

Nott concluded his appendix with a discussion of the indications and rationale for topical bloodletting. He noted that local bleeding (cupping or leeching) could be used effectively in situations when "the local inflammation continues after the patient is too far reduced to bear bleeding from the arm." He noted that many of the fevers encountered in Columbia "do not require the lancet, but are always benefitted by leeches to the epigastrium or head, when the stomach or the brain is affected." Comparing the benefits of leeching to those of cupping, Nott stated that leeches were preferred in inflammations of the abdominal viscera while cupping was preferred in inflammations of the thoracic viscera.

EPILOGUE

The revolution of 1830 moved Broussais to a chair in the school of medicine and honored him for his *Irritation and Insanity* with a seat in the Academy of Moral and Political Sciences. However, his "physiological doctrine" came under increasingly trenchant criticism. A new generation of Paris physicians — men like Bayle, Chomel, Louis, and Laennec — advanced the notion that clinical observation unencumbered by any previous theory was preferable to theories of life and disease such as those preached by Broussais. A vivid portrait of Broussais in his subsequent decline at the school of medicine was rendered by Oliver Wendell Holmes in 1834:

> "Broussais was in those days like an old volcano, which has pretty nearly used up its fire and brimstone, but is still boiling and bubbling in its interior, and now and then sends up a spurt of lava and a volley of pebbles . . . The hour of his lecture was succeeded by that of a younger and far more popular professor (Gabriel Andral). As his lecture drew towards its close, the benches, thinly sprinkled with students, began to fill up; the doors creaked open and banged back oftener and oftener, until at last the sound grew almost continuous, and the voice of the lecturer became a leonine growl as he strove in vain to be heard over the noise of doors and footsteps."

In 1838, Broussais died poor of carcinoma of the rectum.

Thomas Cooper's last decade was both turbulent and, in a sense, triumphant. His translation of Broussais brought an indictment by the legislature and a public trial and acquittal by the college board of trustees. When he further antagonized the fundamentalist upcountry clergy by teaching that in case of conflict the Pentateuch must yield to the new geology, he had to resign from the presidency of South Carolina College. In 1834, at age 75, he was honored with a doctorate of laws and commissioned by the legislature to edit and publish the state's statutes. In 1839, Thomas Cooper died of asthma and dropsy. It has been reported that a local church accepted his remains in its cemetery only with the stipulation that the marker should state that it was erected by a *portion* of his fellow citizens.[8]

Unlike Broussais and Cooper, Josiah Nott was in 1831 still a young man. In 1835, he left his practice in Columbia and ventured to Paris to learn of the latest innovations first-hand. Whether he met Broussais is unknown. However, he certainly encountered the vibrant atmosphere created by the new generation of Paris clinician-teachers. The year 1835 is remembered especially for the demonstration by Pierre-Charles-Alexander Louis that bloodletting was of little or no value in pneumonia — a demonstration which simultaneously gave birth to modern

medical statistics and destroyed Broussais' "system."

There is no evidence that Josiah Nott taught the "physiological doctrine" upon his return to America in 1836. The story of his subsequent illustrious career has been told many times and will not be repeated here except to mention that he became a leading surgeon of his day and an outspoken anthropologist, and is given credit for suggesting that yellow fever might be transmitted by a mosquito vector. Nott died in Mobile, Alabama in 1873, often saying during his last days that "no man ever had such warm affectionate friends." □

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First Quarter 1982 Calendar

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MONDAYS 4:00 P.M.
COMBINED SURGERY AND GI CONFERENCE
COLUMBIA Wm. Jennings Bryan Dorn VA Hospital, Room 3-A, 1110
Sponsor: USC School of Medicine, Depts. of Surgery and Medicine, Division of Gastroenterology
Audience: Faculty, residents, students and interested physicians
Contact: Dept. of Surgery, USC School of Medicine, Columbia, SC 29203 (803) 765-7452
Fee: None
Faculty: Frederick L. Greene, M.D.; Dept. of Surgery, USC School of Medicine; Abdul Khan, M.D., Div. of Gastroenterology, Dept. of Medicine, USC School of Medicine
CME Credits: Non-Credit

TUESDAYS
SELECTED READINGS
COLUMBIA Richland Memorial Hospital, ACC 2, Area V Conference Room
Sponsor: USC School of Medicine, Dept. of Surgery; RMH; VA Medical Center
Description: Discussions of topics in selective readings regarding surgical procedures and surgically related illnesses
Audience: Faculty, residents, medical students, private clinicians
Contact: James L. Haynes, M.D., Dept. of Surgery, USC School of Medicine, RMH, Columbia, SC 29203, (803) 765-7452
Fee: None
Faculty: USC School of Medicine, Dept. of Surgery Faculty
CME Credits: Non-Credit

WEDNESDAYS 4:30 P.M.
VASCULAR SURGERY CONFERENCE
COLUMBIA Richland Memorial Hospital, ACC 2 Area V
Sponsor: USC School of Medicine, Dept. of Surgery
Audience: Surgery staff, residents, students and private clinicians
Contact: James L. Haynes, M.D. (803) 765-7452; T. J. Bunt, M.D. (803) 776-4000, Ext. 583
Fee: None
Faculty: USC School of Medicine Dept. of Surgery Faculty
CME Credits: Non-Credit

FRIDAYS 7:00 A.M.
UROLOGY CONFERENCE
COLUMBIA Richland Memorial Hospital, ACC 2, Area V Conference Room
Sponsor: USC School of Medicine, Dept. of Surgery, Div. of Urology, RMH, VA Medical Center
Audience: Faculty, residents, students, private clinicians
Contact: Joel Kaufman, M.D., Dept. of Surgery, 3321 Medical Park Rd., Columbia, SC 29203, (803) 256-0308
Fee: None
Faculty: Joel Kaufman, M.D., Urology Division, Dept. of Surgery, USC School of Medicine
CME Credits: 1 Hour AMA Category I per session

FRIDAYS 8:00 A.M.
GRAND ROUNDS
COLUMBIA Richland Memorial Hospital
Sponsor: USC School of Medicine, Dept. of Pediatrics
Audience: Pediatricians, Family Practitioners and other interested health care professionals
Contact: Warren Derrick, Jr., M.D., Chairman, Dept. of Pediatrics, RMH, Columbia, SC 29203, (803) 765-7211
Fee: None
Faculty: USC School of Medicine, Dept. of Pediatrics
CME Credits: 1 Hour AMA Category I per session

JANUARY

MONDAY JANUARY 4 6:30 P.M.
PAP SMEAR SCREENING
FLORENCE McLeod Regional Center Cafeteria
Sponsor: Pee Dee AHEC
Description: To address the subject of the decreasing frequency of carcinoma of the cervix in South Carolina as well as in the whole country
Audience: Physicians
Contact: D. J. Rawlings, M.D., or Marlene Pecka, (803) 667-2385
Fee: None
Faculty: W. C. Wilson, M.D., MUSC
CME Credits: 1 Hour AMA Category I

THURSDAY JANUARY 14 6:30 P.M.
PIEDMONT PEDIATRIC SOCIETY
GREENVILLE The Forum, Antrim Drive
Sponsor: Department of Pediatrics, Spartanburg General Hospital and Greenville Hospital System
Description: Program on Growth Hormones
Audience: Pediatricians
Contact: A. L. Strickland, M.D., (803) 583-5044
Fee: Cost of dinner
Faculty: Judson Van Wyk, M.D., Dept. of Pediatrics, UNC School of Medicine
CME Credits: 1 Hour AMA Category I

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Spouses ..... $ 30
(includes breaks and lunches on both days)
Faculty: Willard E. Quillian, III, M.D., Associate Professor of Psychiatry, Medical College of Georgia School of Medicine

MONDAY JANUARY 18 5:00-6:30 P.M.
MULTIDISCIPLINARY ONCOLOGY CONFERENCE
COLUMBIA USC School of Medicine Library Complex, VA, Room 327
Sponsor: USC School of Medicine, Depts. of Medicine and Surgery
Audience: Physicians interested in oncology related medicine; students; housestaff; nurses and other health care professionals
Contact: Frederick Greene, M.D. (803) 776-4000, Ext. 582 or George P. Sartiano, M.D. (803) 776-6575
Fee: None
Faculty: USC School of Medicine and Visiting Faculty
CME Credits: 1.5 Hours AMA Category I

FRIDAY JANUARY 22 8:30 A.M.-5:00 P.M.
SEVENTH ANNUAL RHEUMATOLOGY SEMINAR
SPARTANBURG Spartanburg General Hospital
Sponsor: S. C. Arthritis Foundation and Spartanburg General Hospital Rheumatology Clinic
Audience: Physicians, nurses and other health professionals
Contact: S. C. Arthritis Foundation, 3008 Millwood Avenue, Columbia, SC 29205, (803) 254-6702
Fee: TBA
CME Credits: 7 Hours AMA Catetory I
7 Hours AAFP Prescribed

FRIDAY JANUARY 22
ANNUAL MEETING OF THE S. C. CHAPTER OF AMERICAN COLLEGE OF SURGEONS
CHARLESTON Mills House Hotel
Sponsor: S. C. Chapter of American College of Surgeons and Division of CME, MUSC
Description: A two-day educational program for members of the American College of Surgeons and their guests
Audience: Members and Guests of American College of Surgeons
Contact: Drs.: Robert S. Cathcart III and Marion C. Anderson (803) 792-3961
Fee: $125
Faculty: Various outstanding physicians
CME Credits: 8 Hours AMA Category I/ACCME

TUESDAY JANUARY 26 6:30 P.M.
THE VITAMINS, A TWO EDGED SWORD
FLORENCE Florence Country Club
Sponsor: Pee Dee AHEC
Description: To provide physicians with nutritional knowledge. Illustrated lecture and discussion
Audience: Physicians
Contact: D. J. Rawlings, M.D., (803) 667-2385
Fee: None
Faculty: Don Turk, M.D., Professor of Nutrition, Clemson University
CME Credits: 1 Hour AMA Category I

FEBRUARY

WEDNESDAYS FEB. 3, 10, 17 AND 24
CANCER THERAPY UPDATE
FLORENCE Florence Country Club
Sponsor: Pee Dee AHEC
Audience: Physicians
Contact: D. J. Rawlings, M.D., (803) 667-2385
Fee: None
Faculty: TBA
CME Credits: 1 Hour AMA Category I (each program)

WED.-SAT FEBRUARY 3-6
A.S.P.E.N. 6TH CLINICAL CONGRESS
SAN FRANCISCO San Francisco Hilton
Sponsor: American Society for Parenteral and Enteral Nutrition, Inc.
Description: Through postgraduate courses, symposia and short paper sessions, scientific exhibits and information exchange sessions, the attendee will be presented with the latest advances in clinical nutrition. Theme is "Specialized Nutrition Support: The Standard of Care"
Contact: A.S.P.E.N., 1025 Vermont Avenue, NW, Suite 810, Washington, DC 20005 (202) 638-5881

MONDAY FEBRUARY 15 5:00-6:30 P.M.
MULTIDISCIPLINARY ONCOLOGY CONFERENCE
COLUMBIA USC School of Medicine Library Complex, VA, Room 327
Sponsor: USC School of Medicine, Depts. of Medicine and Surgery
Audience: Physicians interested in oncology related medicine; students; housestaff; nurses and other health care professionals
Contact: Frederick Greene, M.D., (803) 776-4000 Ext. 582, or George P. Sartiano, M.D., (803) 776-6575
Fee: None
Faculty: USC School of Medicine and Visiting Faculty
CME Credits: 1.5 Hours AMA Category I

FRIDAY FEBRUARY 19 8:00 A.M.-5:00 P.M.
SEMINAR: CONNECTIVE TISSUE DISEASES
CHARLESTON MUSC, Basic Science Building, Room 302
Sponsor: S. C. Chapter of the Arthritis Foundation; Division of CME, MUSC
Description: The pathogenesis and the manifestations of inflammatory diseases of connective tissue will receive emphasis in this program. Principles of treatment will be discussed by each speaker and will be detailed in final presentation
Audience: All interested physicians
Contact: Walter Bonner, M.D., (803) 792-4435
Fee: $60.00
Faculty: Peter E. Lipsky, M.D., University of Texas Health Science Center; John S. Sergent, M.D., Vanderbilt University; MUSC Faculty
CME Credits: 6 Hours AMA Category I
6 Hours AAFP Prescribed
6 Hours ACCME

SUN.-WED. FEBRUARY 21-24
DIAGNOSIS AND MANAGEMENT OF DISORDERS OF BONE AND MINERAL METABOLISM
HILTON HEAD ISLAND Sea Pines
Sponsor: College of Medicine and Division of CME, MUSC
Description: The course will consist of formal presentations by experts and panel discussions with audience participation
Audience: Practicing physicians, internists, academicians
Contact: Norman H. Bell, M.D., (803) 577-5011 Ext. 350
Fee: $250.00
Faculty: Various outstanding physicians from across the USA

CME Credits: 16.25 Hours AMA Category I
16.25 ACCME
1.62 CEU's

TUESDAY FEBRUARY 23 POSTGRADUATE COURSE
WED.-FRI. FEB. 24-26 SCIENTIFIC SESSIONS
"1982 ANNUAL MEETING OF THE AMERICAN SOCIETY OF ANDROLOGY"
HILTON HEAD ISLAND Hyatt Hotel
Sponsor: American Society of Andrology, USC School of Medicine
Description: Postgraduate Course Topics: "The Male Accessory Glands"; "Receptors and Proteins in Testis Function"
Scientific Sessions Topics: "Current Approaches to Prostrate Cancer"; "Leydig Cell Regulation"; "Actions on Androgens"
Also included will be a two hour workshop dealing with "Practical Aspects of Laboratory Investigations." "Meet the Professor" clinical discussion of 1.5 hours will highlight the luncheon sessions on the 24th and 25th
Audience: Members and potential members of American Society of Andrology
Contact: Ronald Lewis, (504) 892-2040 or Howard R. Nankin, M.D. (803) 776-6575 or 6576
Fee: Scientific Sessions Member $40.00
Non-Member $60.00
Guest ..... $ 5.00
Student, Resident Fellow $25.00
Postgraduate Course: Complete $100.00
A.M. Session ..... $ 70.00
P.M. Session ..... $ 30.00
Faculty: Tom O.Abney, Ph.D., Medical University of Georgia;
Kevin J. Catt, M.D., Ph.D., National Institutes of Health;
Donald S. Coffey, Ph.D., Johns Hopkins Hospital;
Fletcher Derrick, M.D., MUSC;
Maria L. Dufau, M.D., Ph.D., National Institutes of Health;
Rune Eliasson, M.D., Karolinska Institute (Sweden);
James E. Griffin, M.D., University of Texas Southwestern Medical School;
Stuart S. Howards, M.D., University of Virginia School of Medicine;
Steven Kistler, Ph.D., USC School of Medicine
CME Credits: AMA Category I for both sessions

SATURDAY FEBRUARY 27
HYPOTENSION: ITS ETIOLOGY AND TREATMENT
COLUMBIA William Jennings Bryan Dorn VA Hospital
Sponsor: USC School of Medicine, Office of Academic Affairs and CME
Description: This 2nd Annual cardiovascular program will cover topics on Management of Septic Shock; Cardiac Failure and Shock; Physiology of Fluid Balance and Replacement; Blood Loss Shock and Its Therapy; Pharmacology of Shock Therapy. Demonstration experiences will be included
Audience: Internists; GP's; Cardiologists; Researchers; other interested health care practitioners
Contact: Mrs. Jeri McClain, USC School of Medicine, Columbia, SC 29208, (803) 783-1512 or 1513
Fee: TBA
Faculty: Michael Assay, M.D., MUSC; William Shumer, M.D., North Chicago Medical Center; Matthew Wolf, M.D.; James McCutcheon; and Thomas Darby, M.D., USC School of Medicine
CME Credits: 7 Hours AMA Category I

MARCH

FRI.-WED. MARCH 5-10
SECOND INTERNATIONAL CONGRESS OF PRIVATE AND INDEPENDENT DOCTORS
CHARLESTON Mills House Hotel
Sponsor: International Organization of Private and Independent Doctors (IATROS)
Description: The theme of this meeting will be "The Promotion of Private Practice." Presentations and discussion will review systems of medical care in the Western World, their impact on the private practice of medicine, what has been done in the past and can be done in the future to promote and ensure the survival and improvement of private medicine
Audience: Physicians
Contact: IATROS Congress, 63 Gadsden Street, Charleston, SC 29401, (803) 722-1209 or (803) 722-4214 (night)
Fee: Physician: $300.00
Accompanying person: $150.00
(includes 3 luncheons, reception, banquet, local city and harbor tours, Congress literature and satchel)
Faculty: Various distinguished physicians from the U. S., Sweden, Switzerland and Australia

SAT.-SUN MARCH 6 & 7 8:00 A.M.-5:00 P.M.
ADVANCED CARDIAC LIFE SUPPORT PROVIDER COURSE
GREENVILLE General Hospital Auditorium, 100 Mallard St.
Sponsor: Dept. of CME
Description: Instruction in adjuncts for airway, defibrillation, IV therapy, drugs monitoring, stabilization and transportation including station practice of above
Audience: Physicians, paramedics and residents
Contact: Mr. Donald Gregg (803) 242-8804
Fee: $ 75.00 for residents and non-physicians
$175.00 for practicing physicians
Faculty: TBA
CME Credits: 12 Hours AMA Category I

FRI. & SAT MARCH 12 & 13
POST GRADUATE COURSE IN ADULT AND PEDIATRIC UROLOGY
CHARLESTON Sheraton-Charleston Hotel
Description: To assist the practicing urologist in the understanding and management of some of the more common and troublesome problems in clinical urology. To bring new knowledge to the registrant that may be used in a practical sense
Audience: Urologists, both statewide and nationwide
Contact: Stephen N. Rous, M.D., or Carol Anne Reed (803) 792-4531
Fee: $110.00
Faculty: Col. Thomas P. Ball, Jr., AFMPC, Randolph AFB, Texas; A. Barry Belman, M.D., George Washington University; David F. Paulson, M.D., Duke University Medical Center; MUSC Faculty
CME Credits: 9.5 Hours AMA Category I
9.5 Hours ACCME

MONDAY MARCH 15 5:00-6:30 P.M.
MULTIDISCIPLINARY ONCOLOGY CONFERENCE
COLUMBIA USC School of Medicine Complex, VA, Room 327
Sponsor: USC School of Medicine, Depts. of Medicine and Surgery
Audience: Physicians interested in oncology related medicine; students; housestaff; nurses and other health care professionals
Contact: Frederick Greene, M.D., (803) 776-4000, Ext. 582 or George P. Sartiano, M.D., (803) 776-6575

Fee: None
Faculty: USC School of Medicine and Visiting Faculty
CME Credits: 1.5 Hours AMA Category I

THURS. & FRI. MARCH 19 & 20
16TH ANNUAL OPHTHALMOLOGY CONFERENCE
CHARLESTON Mills House Hotel
Sponsor: Dept. of Ophthalmology, MUSC; Div. of CME, MUSC
Description: Talks on advances in treatment of retinal detachments, macular degeneration, vitreous surgery, tumors and rare macular disorders
Audience: Ophthalmologists
Contact: Mary Lynn West, (803) 792-2492
Fee: $140
Faculty: Richard A. Lewis, Houston, TX; William B. Snyder, Dallas, TX; David E. Eifrig, Chapel Hill, NC; Charles L. Schepens, Boston, Mass.
CME Credits: 9 Hours AMA Category I

MON.-WED. MARCH 22-24
"CANADIAN-AMERICAN MEDICAL SEMINAR UPDATE IN CLINICAL MEDICINE"
MYRTLE BEACH Myrtle Beach Hilton
Sponsor: Dept. of Medicine and Division of Ophthalmology and Dept. of Surgery, USC School of Medicine
Description: The program is designed to provide an update in clinical medicine for primary care physicians. Selected topics in the areas of Cardiology, Pulmonary Diseases, Infectious Diseases, Endocrinology, and Medical Ophthalmology will be presented
Audience: Medical doctors who specialize in General Practice, Family Practice, and Internal Medicine
Contact: O'Neill Barrett, Jr., M.D., USC School of Medicine, Columbia, SC 29208 (803) 783-1512 or 1513
Fee: Registration $150.00
Faculty: Charles S. Bryan, M.D.; James G. Ferguson, Jr., M.D.; Mark E. Hammer, M.D.; J. O'Neal Humphries, M.D.; Howard R. Nankin, M.D.; Gerald Olsen, M.D.; Thomas C. Spoor, M.D.
CME Credits: 10.5 Hours AMA Category I

MON.-WED. MARCH 23-25
GREENVILLE POSTGRADUATE SEMINAR
GREENVILLE Sheraton-Palmetto, I-85 and Highway 25
Sponsor: Greenville Hospital System, Greenville County Medical Society
Description: A broad-based lecture series. Practice-oriented approach
Audience: Practicing physicians
Contact: M. Gordon Howle, M.D., (803) 242-3935
Fee: $100.00
Faculty: Diverse
CME Credits: 21 Hours AMA Category I
21 Hours AAFP Prescribed

WED.-FRI. MAR 24-26
"CANADIAN-AMERICAN OPHTHALMOLOGY SEMINAR"
MYRTLE BEACH Myrtle Beach Hilton
Sponsor: USC School of Medicine
Description: This program will emphasize vitrectomy, glaucoma, neuro-ophthalmology, and orbital diseases. Workshop experience with the Ocutome/Fragmatome system will be available to a limited number of participants. The seminar coincides with Canadian-American Days at Myrtle Beach
Audience: Ophthalmologists
Contact: Mark E. Hammer, M.D., Course Director, USC School of Medicine, 3321 Medical Park Road, Columbia, SC 29203, (803) 254-4398
Fee: Lectures and both Vitrectomy Workshops $400
(rec'd before Feb. 15, 1982)
(rec'd after Feb. 15, 1982) $435
Lectures and One workshop $300
Lectures only $150
Reception — Spouse or Guest ..... $ 20 each
Historical Tour ..... $ 20
Golf Tourney ..... $ 20.50
Faculty: Richard G. Chenoweth, M.D.; James G. Ferguson, Jr., M.D.; Mark E. Hammer, M.D.; John S. Kennerdell, M.D.; John Little, M.D.; John A. McCrary, M.D.; Calbert I. Phillips, M.D.; Michael Shea, M.D.; Thomas C. Spoor, M.D.
CME Credits: 16 Hours AMA Category I
An additional 4 hours of Category credit can be awarded for each of the two afternoon ocutome laboratory sessions.

WED.-FRI. MARCH 25-27
SEARCH FOR PERSONAL AND PROFESSIONAL IDENTITY IN MEDICAL EDUCATION
CHARLESTON Francis Marion Hotel
Sponsor: Society of Health and Human Values/Division of CME
Description: Discussion of ways humanities faculty help at each level of medical or nursing education, from college to residency, goals of the humanities in clinical health professional education
Audience: Physicians, Nurses, Humanities professionals
Contact: Albert H. Keller, S.T.M., (803) 792-2411
Faculty: Invited guest faculty and MUSC faculty

SUN.-WED. MARCH 28-31
THE AGING OVARY
CHARLESTON Mills House Hotel
Sponsor: American College of Obstetricians and Gynecologists; Div. of CME, MUSC
Description: This course will present current thinking on the diagnosis and management of the climacteric female. Indications, contraindication and controversies in substitutional hormonal therapy. Management of abberations of genital bleeding in this age epoch. Newer concepts regarding neural and hormonal concomitants of the hot flush and premature ovarian failure. Problems of the elderly gravida and their management
Audience: OB/GYNs from all over the U. S.
Contact: William C. Wilson, M.D. or H. Oliver Williamson, M.D., (803) 792-2864)
Fee: $200.00
Faculty: Mrs. Rufus Barkley; R. Don Gambrell, Jr., M.D., Medical College of Georgia; Howard W. Jones, III, M.D., Vanderbilt University; Michael E. Yannone, M.D., Texas Technical University and MUSC Faculty
CME Credits: 14 Hours AMA Category I
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Editorials

Facts or opinions in Guest Editorials are those of the writer and do not necessarily represent policy of the South Carolina Medical Association.

In this day of increasingly sophisticated technology, it is refreshing to find physicians who devote research time to such basic topics as the proper taking of a medical history. In the guest editorial below, Dr. Donald J. Carek of the Medical University of South Carolina addresses this subject.

— CSB

COMMUNICATION IN THE EXAMINING ROOM

Communication between physicians and patients is a multi-purposed process from which the following three functions can be reduced:

1. Communication as a diagnostic tool.
2. Communication as a means of gaining compliance.
3. Communication as treatment.

A few words about each of these may be in order.

Communication as a Diagnostic Tool

The importance of communication between the physician and the patient as a diagnostic tool is highlighted in oft repeated maxims like "history is 85% of the diagnostic process."

Communication to arrive at diagnosis involves more than verbalized bits of information, or computers indeed might supplant physicians. Moser[5] writes, "the first five minutes are the most precious interval in the entire interview . . . . I want eyeball-to-eyeball contact. I want to listen to the inflection of voice. I want to evaluate nuances of word, turn of phrase. I want to study body language, facial expression, skin color, sweat, sequence of thought, and the myriad of other messages, subliminal and overt, that pass between human beings."

When it comes to the psychiatric interview — and any clinical encounter has elements of such an interview — Sandifer and coworkers[6] report that "the first three minutes of observation have a significant, and sometimes apparently decisive impact upon the final diagnostic decision." "The issue is probably not so much whether this impact is desirable or undesirable but a clear recognition that it occurs."

Dobbs and Carek[4] have described medical interviewing as an active process wherein the examiner quickly arrives at hypotheses that he confirms or rejects with the aid of additional information. Or what Sandifer and coworkers say of psychiatrists may very well be true of clinicians generally. That is, they "do not seem to function like the adding machine, deferring the final tabulation, until the last entry is made, but rather much more like a sensing or tracking device that seeks and zeros in on its target."[6]

Communication as a Means of Gaining Compliance

Becker[2] notes that in most studies one-third of the patients fail to follow their physician's advice. The number jumps to about 50% when the advice is preventive in nature, when the patients are without symptoms or when the regimen is long-term. In low income populations noncompliance is frequently reported to be more than 60%.

In any event, compliance implies an attitude and as such is not an either-or matter. To aim for it and the factors associated with it, e.g. patient satisfaction, can involve an elusive pursuit. The harder one tries, the more elusive it may become. Perhaps compliance is best viewed as a byproduct of a reasonable communication between a physician and a patient in which both ultimately have a voice in the decisions that are made about treatment.

Communication as Treatment

It may not be appreciated enough how communication may be treatment in itself. Even if this aspect of communication is accepted as legitimate, physicians may unduly concentrate on the verbal interchange, especially on their giving advice.

There are, however, a number of other specific ways in which communication may offer treatment. First, when the physician invites the patient to acknowledge a variety of feelings and offers approbation for doing so, there can be tremendous emotional relief through the mere

expression of feelings. Secondly, in the verbalization of facts, fantasies, fears and wishes, there often emerges for the patient a sense of perspective that eludes him when left to mull over things in the privacy of his own inner world. Third, the physician's gentle confrontations about observed behaviors which the patient may not otherwise acknowledge and his persistent demand for specifics in the face of generalizatvns and conclusions spontaneously lead to insights and further arrival at better perspective in a very natural, spontaneous manner.

In another sense communication as treatment flows through the physician's role of educator as he imparts not only information but helps the patient develop personality skills by virtue of where he places premium. There are the opportunities to foster reflection and thereby help the patient assess more realistically his inner and outer world. In his acceptance of feelings without provoking guilt, and in his demonstrated capacity to tolerate uncertainty the physician also serves as a valuable role model. Lastly, the physician may be able to help the patient appreciate how his illness may be a means of coping with troublesome feeling states such as anxiety or depression.[3]

Amalgamation of sensitive empathy and improved ability to communicate with patients may not be all that easy to attain. Barnland reports on a physician who appeared to be genuinely interested in his patients, earnestly tried to provide the care they needed and attempted to be as clear and informative as possible. However, it also appeared clear "that he had one approach to all patients; that he failed to recognize differences in their reactions to stress; . . . . that he made little effort to confer with them; that he did not adapt verbally, often using words that had no meaning for them; and that when he failed, he sought no explanation for his failure nor did he consider varying his behavior to adapt to this failure. Yet to unsophisticated observers, including some of his patients, he appeared to be an adequate example of the doctor communicating with his patient."[1]

Charades of communication are inevitable when the essential ingredient of heartfelt sensitive empathy for patients is not the bedrock for meaningful interchanges with people. Certain physician behaviors suggest that this fact may not be sufficiently appreciated. First, there is the interesting observation that students and housestaff often find it easier to explain why a patient *must* be anxious or depressed than to sense whether or not the patient *actually* is anxious or depressed. This fact well may reflect that medical education does inculcate a cognitive appreciation of why people suffer but does not do well at all at cultivating a sensitive empathy for what others experience.

Second, there is the oft seen dramatic change for the better in physical appearance and attire of students/housestaff/faculty members as they move from the academic medical center to the world of private practice. There is the uneasy impression that these professionals may respond more to the dictates of the market place than to the sensitivity of their patients, regardless of status or manner of remuneration. Lastly, there is the obvious premium on technical procedures in medical practice as practitioners are so much more generously rewarded for physical manipulations with or without instruments than they are for the exercise of the multifacted communication considered herein.

The sum of it all is that physicians, especially medical educators, might well first look at individual and professional forces that militate against development of truly sensitive empathy for patients lest teaching and learning of communication skills be misconstrued as a preparation of Madison Avenue hucksters. □

— Donald J. Carek M.D.
Department of Psychiatry and
Behavioral Sciences, MUSC
171 Ashley Avenue
Charleston, S.C. 29425

REFERENCES

1. Barlund, DC: The mystification of meaning: Doctor-patient encounters. J. Med. Educ. 51: 716-725, 1976.
2. Becker, MH: Understanding patient compliance: The contributions of attitudes and other psychosocial factors. In Cohen, SJ (Ed.), *New Directions in Patient Compliance*. Lexington Books, Lexington, Mass. 1979, pp. 1-31.
3. Carek, DJ: Focus on affect. Clin. Pediatrics. 17: 574-578, 1978.
4. Dobbs, HI and Carek, DJ: The conceptualization and teaching of medical interviewing. J. Med. Educ. 47: 272-276, 1972.
5. Moser, RH: The first five minutes. JAMA. 231: 1169-1170, 1975.
6. Sandifer, MG, Hordern, A., Green, LM: The psychiatric interview: The impact of the first three minutes. Amer. J. Psychiat. 126: 968-972, 1970.

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LETTER TO THE EDITOR

To the Editor:
RE: "Insurance Equality Legislation," SCMA Legislative Update, August 1981

We wish to commend you for the clarity of your statement in the August issue of Legislative Update that nurses and other health care professionals "feel that, if they provide a service that a physician provides and that they can (legally) provide such service, then they should receive like reimbursement." This is in a nutshell what nurses believe about equal insurance reimbursement. We feel that to do otherwise is to continue to discriminate against eligible providers such as nurse practitioners. This, we believe, is restraint of trade and must not be permitted. Legislation to correct this exclusion in the State's insurance laws is needed, since we have been unable to achieve our goal through nonlegislative means. We do not think that it is the intent of the majority of physicians in the state to deny consumers their right to choose from eligible providers.

We can appreciate your concerns about increased costs, however, to our knowledge this has not been validated through scientific studies. In addition, in South Carolina there are many underserved people so that South Carolina has been declared one of the nation's medically underserved states. We, the members of the nation's health care delivery system, must pool our resources to provide the needed health care for our citizens. Restraint of trade will surely not resolve this problem.

Thank you for stating our position so clearly. We would like to work with you not against you to improve our health care delivery system and to seek equal reimbursement for equal services rendered.

Sincerely yours,

Gwen Shaw, R.N., Chair
Legislative Committee
S.C. Nurses' Association
1821 Gadsden Street
Columbia, S.C. 29201

Editor's Note:

Although the preceding letter to the editor was addressed to the Editor of *The Journal of the South Carolina Medical Association*, it refers to an item in the SCMA Legislative Update, which appeared in the August, 1981 issue of *The Journal*. The Legislative Update is published by the Association under the direction of the SCMA Legislative Activities Committee, and is edited by Mr. Frank Rogers, Director of the Department of Public Affairs and Professional Relations.

Mr. Rogers, who is an attorney, stated that Ms. Shaw's letter was factually incorrect in that she stated: "This (failure by some insurance companies to provide reimbursement for nursing services) . . . is *restraint of trade* and must not be permitted".

Black's Law Dictionary defines Restraint of Trade as: "contracts or combinations which tend or are designed to eliminate or stifle competition, effect a monopoly, artificially maintain prices, or otherwise hamper or obstruct the course of trade and commerce as it would be carried on if left to the control of natural and economic forces."

"As long as individual insurance companies continue to make decisions on who to reimburse on a *unilateral* basis," adds Rogers, "alleging an illegal conspiracy such as restraint of trade is without foundation."

— Ed.

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- Branchitis and pneumania caused by *S. pneumaniae* (formerly *D. pneumaniae*)
- Otitis media caused by *S. pneumaniae* (farmerly *D. pneumaniae*) and *H. influenzae*
- Acute exacerbation af chranic bronchitis caused by *H. influenzae**
- *Though clinical impravement has been shawn, bacteriologic cures cannat be expected in all patients with chranic respiratary disease due ta *H. influenzae*.

SKIN AND SKIN STRUCTURES (integumentary) infectians caused by Graup A beta-hemalytic streptacacci and staphylococci, nanpenicillinase praducers.

URINARY TRACT INFECTIONS caused by *E. cali* and *P. mirabilis*. (This drug shauld nat be used in any *E. cali* and *P. mirabilis* infectians other than urinary tract.)

NOTE: Perfarm cultures and susceptibility tests initially and during treatment ta manitor effectiveness of therapy and susceptibility af bacteria. Therapy may be instituted prior to results af sensitivity testing.

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Wornings Cyclocillin should only be prescribed for the indicotions listed herein.

Cyclacillin has less in vitro activity thon other drugs of the ompicillin class. However, clinical trials demonstroted it is efficacious for recommended indications.

Serious ond occosionol fotal hypersensitivity (anaphyloctoid) reoctions have been reported in potients on penicillin. Although onophylaxis is more frequent following porenteral use, it has occurred in potients on orol penicillins. These reoctions are more apt to accur in individuols with history of sensitivity to multiple allergens. There ore reports of potients with history of penicillin hypersensitivity reoctions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, corefully inquire obout previous hypersensitivity reactions to penicillins, cepholosporins ond other ollergens. If ollergic reaction occurs, discontinue drug ond initiote oppropriote therapy. Serious anaphylactoid reactions require immediote emergency treatment with epinephrine. Oxygen, I.V. steroids, airwoy monogement, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics may pramate avergrawth af nansusceptible arganisms. If superinfection accurs, take appraprate measures.

PREGNANCY: Pregnancy Categary B. Reproduction studies perfarmed in mice ond rots at doses up to 10 times the human dose revealed no evidence of impoired fertility or horm to the fetus due to cyclocillin. There are, however, no odequate and well-controlled studies in pregnont women. Becouse onimol reproduction studies ore not alwoys predictive of humon response, use this drug during pregnoncy only if clearly needed.

NURSING MOTHERS: It is not known whether this drug is excreted in humon milk. Because mony drugs ore, exercise caution when cyclacillin is given to a nursing womon.

Adverse Reactions Orol cyclocillin is generally well toleroted. As with other penicillins, untoward sensitivity reactions are likely, porticulorly in those who previously demonstroted penicillin hypersensitivity or with history of ollergy, asthmo, hoy fever, or urticorio. Adverse reactions reported with cyclocillin: diorrheo (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximotely 1 in 50), ond skin rash (in opproximotely 1 in 60). Isoloted instances of heodache, dizziness, abdominal pain, vaginitis, and urticario have been reoorted. (See WARNINGS) Other less frequent adverse reoctions which moy occur ond ore reported with other penicillins ore onemio, thrombocytopenio, thrombocytopenic purpura, leukopenia, neutropenio and eosinophilia. These reoctions ore usoolly reversible on discontinuation of therapy.

As with ather semisynthetic penicillins, SGOT elevotions have been reported.

As with antibiotic therapy generolly, continue treatment ot least 48 ta 72 hours after patient becomes asymptomatic or until bacterial eradicotion is evidenced. In Group A beto-hemolytic streptococcal infections, ot leost 10 days' treatment is recommended to guard agoinst risk of rheumatic fever or glomerulonephritis. In chronic urinary troct infection, frequent bacteriologic and clinical appraisal is necessory during therapy ond possibly for several months after. Persistent infection moy require treatment for severol weeks.

Cyclacillin is nat indicated in children under 2 months of age.

Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renol impoirment moy require chonge in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spoced doses)

INFECTION	ADULTS	CHILDREN*
Respiratory Troct		
Tonsillitis & Pharyngitis	250 mg q.i.d.	body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d.
Bronchitis and Pneumonia		
Mild or Moderate Infections	250 mg q.i.d.	50 mg/kg/day q.i.d.
Chronic Infections	500 mg q.i.d.	100 mg/kg/day q.i.d.
Otitis Media	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/doy†
Skin & Skin Structures	250 mg to 500 mg q.i.d.†	50 ta 100 mg/kg/day†
Urinory Tract	500 mg q.i.d.	100 mg/kg/doy

*Dosoge should not result in a dose higher than that for odults.
†depending on severity

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